GOVERNMENT TECHNOLOGY
SOLUTIONS FOR STATE AND LOCAL GOVERNMENT
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TOP 25 DOERS, DREAMERS & DRIVERS

CODE FOR AMERICA'S
JENNIFER PAHLKA

PLUS: Digital Communities Quarterly Report

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PHOTO BY ANNE RYAN / COVER PHOTO BY JESSICA MULHOLLAND

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By Steve Towns / Executive Editor

Recognizing Public-Sector Excellence

When we launched *Government Technology's* annual Top 25 issue in March 2002, our goal was simple: to recognize the excellence we encounter every day in the public sector.

One of the nicest things about my job is that I get to regularly rub elbows with some of the brightest people in state and local government — and the same is true for a number of my colleagues at *Government Technology* and its parent company, e.Republic. Over the course of a year, we interview hundreds of state and local officials about innovative technology deployments for *Government Technology* magazine and Govtech.com. We also talk to them face-to-face at more than 200 live events.

The Top 25 became our way of honoring the most impressive individuals we meet. We call them "Doers, Dreamers and Drivers" in recognition of the commitment, vision and plain old hard work that's required to move government forward despite the obstacles.

Ten years after that inaugural issue, we're still at it. And given the fierce challenges and huge opportunities facing states, cities and counties, we think our original goal of recognizing public-sector excellence and innovation is more important than ever.

As usual, this year's winners are a distinguished and varied collection of people.

Our 2012 list includes the New York City Police Department CIO, who led a technology turnaround in the nation's largest local police force, and the mayor of Chattanooga, Tenn., who spearheaded a citywide broadband project that delivers some of the country's fastest Internet connection speeds. It includes the CIO of Montana, who launched a multistate effort to store GIS data in the cloud, and the CIO of Indiana University, who used open source software to collaboratively create administrative software used by multiple institutions.

Most of our 2012 winners come from inside government, but others run startups or nonprofits that have profoundly influenced public-sector IT. For instance, we've honored the creator of YouTown, a suite of mobile apps that allows agencies to easily launch open data offerings. We also recognized the founder of Code for America, a nonprofit that matches open source software developers with cities that want to undertake innovative technology projects.

In all, we've honored nearly 300 individuals over the years — from the biggest names in our market to unsung heroes, toiling under the radar to improve their communities. These days, government gets too much blame for causing problems and not enough credit for solving them. *Government Technology's* Top 25 shows that there are a lot of talented and dedicated people working in public agencies across the country — and we're all better off because of them. GT

RAISE YOUR VOICE

Your opinions matter to us. Send comments about this issue to the editors at **editorial@govtech.com**. Publication is solely at the discretion of the editors. *Government Technology* reserves the right to edit submissions for length.

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Incredible Shrinking Hard Drive. Hard drives could one day be the size of rice grains, powering music players so small they'd fit inside your ear. Scientists at IBM and the German Centre for Free-Electron Laser Science built the world's smallest unit of magnetic storage, using 96 atoms to create 1 byte of data. Conventional drives require half a billion atoms for each byte. The advance could lead to tiny hard drives that can store 200 to 300 times more information than they do today — but not until researchers can speed up the manufacturing process and stabilize the temperature at which the hard drive functions. SOURCE: DISCOVERY

Spare the Air

Researchers have found an ally in the global warming debate. Molecules known as Criegee biradicals can naturally clean up the atmosphere by oxidizing pollutants, such as sulfur and nitrogen dioxide, produced by combustion. Researchers found that Criegee biradicals accelerate the formation of sulfate and nitrate in the atmosphere, which ultimately leads to cloud formation with the potential to cool the planet.

SOURCE: UNIVERSITY OF BRISTOL

E-WASTE ATM:

Owners of old electronics can make a small profit from ecoATM, an automated phone recycling machine that helps users responsibly dispose of their old gadgets. The machine generates instant quotes for old cellphones or MP3 players from a database of 40,000 items. Items are identified and verified by a camera, and a cable allows the machine to check to see if they're functional. If users accept the offer, money is immediately disbursed. The ecoATM will roll out nationwide this year. SOURCE: TECHWEEK EUROPE

24 million

The number of customers notified that online shoe and apparel store Zappos was hacked, proving that the public sector isn't the only vulnerable target for cybercriminals.

> "If passed, [this legislation] will harm the free, secure and open Web, and bring about new tools for censorship of foreign websites in the United States."

Wikipedia's statement on **Black Wednesday** — the day it shut down its English language page to protest Congress' proposed anti-piracy legislation.

Strange Vending Machines in the Public Sector

Today vending machines not only provide delicious treats, they also spit out supplies and other goods. Pennsylvania's Liquor Control Board installed wine vending machines in supermarkets. In Sacramento, Calif., employees of some government agencies can get equipment like duct tape by waving an identification card on a vending machine's optical reader. And students at Pennsylvania's Shippensburg University can get health-related items from a machine at the university's health center.

8,000 x 8,000:

The number of pixels in NASA's recently released Blue Marble composite image of Earth.

11, 37, 33, 18

The percentage of the 76 respondents who said "excellent," "good," "fair" and "poor," respectively, when answering the GT quick poll question: How would you rate your organization's ability to hire and retain qualified IT personnel?

WHO SAYS?

"You don't have a sentient being on board the aircraft who already has imprinted in his memory what to do if he loses communication ... you've got an airplane out there that nobody can control."

www.govtech.com/public-safety/Will-Safety-Issues-Ground-Police-Use-of-Unmanned-Drones.html

TOP-TWEETED STORIES

Are 'Cloud Hubs' the Way of the Future? 100 tweets

YouTube Agrees to New Terms of Service for State Agencies 76 tweets

Will Agencies Pay for Social Media Advice? 74 tweets

HOT OR NOT?

Most read stories online:

Highest-Definition Image of Earth Ever
6,334 VIEWS

Federal CTO Aneesh Chopra Stepping Down
4,203 VIEWS

Highest-Definition Image of Earth Ever, Part 2
4,152 VIEWS

Least read stories online:

When Billing Services Collide
141 VIEWS

Campbell County, Va., Unveils Enhanced Website 225 VIEWS

Company's Web Forum Helps Agencies Spot Fraud
280 VIEWS

reader **comments:**

"It's a great program, but even better was the Communities in Schools program, which Democrats cut because it was a conservative-sponsored program. What low-income kids need are mentor substitutes for parents who are either working two to three jobs, or drunk on the couch. Hopefully they'll get some mentoring on life and tech skills in this program. That is, if they're not spending three hours a day being bused across town to school."

***Dave in Raleigh, in response to* Raleigh, N.C., Program Makes Teens Tech Gurus**

"Phil Bertolini is a true leader in shared services. He is actually doing what most people are still talking about."

***Kristin Judge, in response to* Oakland County, Mich., Taking Shared Services National**

"This type of police crime suppression has a long and documented history. It shifts the crimes to areas that normally do not have high crime levels. The worst feature is that once we have taught the criminals to go to better neighborhoods, they do not stop going to them once the temporary action ceases. This will widen the high crime areas. This is sensationalism police work. We have tried and failed at this before. If your city is doing this, sell and move before the property values go through the floor."

***White Knight, in response to* Police in Fort Lauderdale Turn Loose 'The Peacemaker'**

"This is absolutely insane. Of all the things money needs to be spent on that would improve education, Huntsville let some salesman from Zonar talk them into throwing it away on some techie toys. It sounds like Zonar is the only one thinking here."

***Steve S., in response to* Alabama School District to Track Student Bus Riders**

Send Spectrum ideas to Managing Editor Karen Stewartson, kstewartson@govtech.com, twitter@KarenStewartson

SINCE 2002, OUR MARCH ISSUE HAS RECOGNIZED THE PUBLIC SECTOR'S DOERS, DREAMERS AND DRIVERS — INDIVIDUALS WITH THE VISION AND DRIVE TO CUT THROUGH GOVERNMENT'S INFAMOUS RED TAPE IN ORDER TO TRANSFORM PROGRAMS AND SERVICE DELIVERY. THIS YEAR'S WINNERS CHALLENGED CONVENTION, NURTURED NEW IDEAS AND BROKE THROUGH OBSTACLES. THEY RESPONDED TO TOUGH CHALLENGES WITH INNOVATIVE SOLUTIONS. WE ARE PROUD TO PRESENT THE 2012 *GOVERNMENT TECHNOLOGY* TOP 25.

WATCH A VIDEO
See profiles of the 2012 Top 25
www.govtech.com/top-25

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WINNERS

Dick Clark
CIO, Montana

Ron Littlefield
Mayor, Chattanooga, Tenn.

Steve Reneker
CIO, Riverside, Calif.
Executive Director, SmartRiverside

Steve Nichols
CTO, Georgia

Nancy Olson
CIO, Milwaukee

Laurie Panella
CIO, Milwaukee County, Wis.

Dale Jablonsky
Assistant Executive Officer, IT Services Branch, CalPERS

Brett Goldstein
Chief Data Officer, Chicago

John Tolva
CTO, Chicago

Kevin Hauswirth,
Social Media Director, Chicago

Mark Sloan
Homeland Security Director & Emergency Mgmt. Coordinator, Harris County, Texas

Brian Kelley
CIO, Portage County, Ohio

Bill Lindner
Director, Center for Academic & Professional Development, Florida State University

Heather Blanchard
Co-Founder, CrisisCommons

Noel Dickover
Co-Founder, CrisisCommons

Andrew Turner
Co-Founder, CrisisCommons

Brad Wheeler
CIO and Vice President of IT, Indiana University

Michael Riedyk
Creator, YouTown

Flint Waters
CIO, Wyoming

Christopher Mitchell
Director, Telecommunications as Commons Initiative, Institute for Local Self-Reliance

Jennifer Pahlka
Founder and Executive Director, Code for America

Code for America Fellows

Stanley Stewart
Deputy Chief of Staff for Eligibility Integration, Texas Health and Human Services Commission

John Nixon
Director, Michigan Department of Technology, Management and Budget

Kyle Schafer
CTO, West Virginia

Debbie Conway
Recorder, Clark County, Nev.

Bryan Sivak
Chief Innovation Officer, Maryland

Larry Godwin
Deputy Commissioner, Tennessee Department of Safety and Homeland Security

Greg Wass
CIO, Cook County, Ill.

V. James Onalfo
CIO, New York City Police Department

Dick Clark

CIO, MONTANA

THOMAS LEE

Executing a vision is challenging in any industry, and is perhaps even more so in government given the public sector's legendary bureaucracy. But in Montana, CIO Dick Clark is watching his vision become a reality.

> "IT'S BEEN REALLY REWARDING TO SEE HOW MUCH COLLABORATION STATES ARE WILLING TO DO.

Last year, an idea came to Clark while driving one day: Aggregate the GIS data from Montana and three other states, and seek a private vendor to store that information in the cloud. After speaking with Oregon CIO Dugan Petty and Utah CIO Steve Fletcher, a plan was set in motion for Montana, Oregon, Utah and Colorado to develop a four-state RFP for cloud-based storage.

"It's been really rewarding to see how much collaboration states are willing to do," Clark said, adding that the idea has sparked interest from roughly 25 other states. Clark chairs an informal group of members from the four participating states to bring the project to completion.

But the project isn't just about finding a better way to store GIS data, said Clark. The larger goal is to move toward "market-based IT," which means focusing decisions about IT services in economic terms instead of budgetary terms.

With Clark leading the way on shared GIS storage, he's creating a model for collaboration in the cloud.

/ **By Sarah Rich, Staff Writer**

Clark is creating a new model for multistate collaboration in the cloud.

Ron Littlefield

MAYOR, CHATTANOOGA, TENN.

When the banking crisis slammed America in 2007, Chattanooga was already working on a business plan for a citywide broadband network. Two years later, the federal government's stimulus package netted the city a $111-million grant to speed up the initiative. The municipally owned Electric Power Board (EPB) quickly laid fiber to connect 170,000 homes and businesses. Chattanooga now has one of the fastest networks in the country.

"We made the decision to use fiber to every user rather than just piggybacking on the old copper wires, because we just felt like fiber is where things are going," Littlefield said. "So if we were going to invest, we might as well invest in the future instead of old technology."

Littlefield's forward-looking vision and steady hand kept the project on course despite some challenges. Business interests opposed to the citywide network sued Chattanooga at least four times — all were unsuccessful. Littlefield, who worked in community planning after moving to Chattanooga in 1968, knew the fiber network would bring capabilities beyond smart grid technology for the local public utility. The EPB now is selling customers HDTV and high-speed Internet. The police department has piggybacked a dedicated wireless mesh network onto the system too. The local chamber of commerce, meanwhile, is using the network to attract and retain high-tech businesses, and has started calling Chattanooga "The Gig City."

"Here is a community with a Southern quality of life, has a pretty good university, has a lot of amenities, and once was the dirtiest city in America," Littlefield said. "And now [it has] this great technological tool that we can use to build a future."

/ **By Matt Williams, Associate Editor**

RON LITTLEFIELD

LOVE
SMILE
FUEL
12
WDEF com

Steve Reneker

CIO, RIVERSIDE, CALIF.

JESSICA MULHOLLAND

Known as the birthplace of the citrus industry, Riverside, Calif., is an 81-square-mile city completely blanketed with free wireless Internet for low-income households. This feat was made possible under the leadership of CIO Steve Reneker, who's also the executive director of SmartRiverside, a nonprofit charged with making the city an incubator and economic hub for startups.

Reneker took the reins as CIO in 2004, and with his unique dual role, has collaborated with local businesses and educational institutions to solidify Riverside as a digital destination. Since 2006, Riverside has topped e.Republic's Digital Cities Survey, which recognizes technical excellence. The city also is a consistently high finisher in the annual Best of the Web survey for innovative and functional government portals. But the city isn't only nationally competitive. On a global playing field, Riverside was named a Top 7 Intelligent Community for its commitment to broadband and technology innovation for the second consecutive year.

Reneker says he's proud of Riverside's 311 mobile app that integrates into its standard 311 system, automatically creating work orders for issues like graffiti abatement. He also points to 600 IP-based video security cameras that let the city police department look at information in real time. Reneker credits much of his success to full support from the city management team and a highly skilled IT staff. The CIO also stays involved in organizations that help him benchmark the city's success and stay focused on projects — a job he plans on doing to ensure Riverside is the innovation center of California's Inland Empire.

/ **By Karen Stewartson, Managing Editor**

Reneker worked with businesses and schools to make his city a digital destination.

Steve Nichols

CTO, GEORGIA

When the Georgia Technology Authority (GTA) needs something done, Steve Nichols is the man to call. He's been instrumental in major state IT projects since joining the organization in 2002. After 10 years and numerous leadership changes, he remains an intellectual force behind Georgia's IT operations.

Nichols — who's working with his fourth CIO and third governor — offers this advice for dealing with changing bosses: "You have to recognize that if you really are going in a new direction, you've just got to let go of the history and the baggage and go with it."

Nichols may be flexible, but he's also been effective at helping state government maintain a consistent IT strategy despite the turnover. In 2008, the GTA awarded a contract to IBM for outsourced IT infrastructure services, which provides mainframes, servers, desktop and disaster recovery services. The authority awarded a second contract to AT&T in 2008 for outsourced voice and network services. The GTA announced plans last year to move Georgia's Web portal and 65 agency websites to an open source cloud platform.

STEVE NICHOLS

Georgia plans to eliminate 20 servers with this portal migration, and projects cost savings of $4 million to $5 million over five years. The state also expects the infrastructure and network outsourcing deals to save more than $180 million over 10 years.

While Nichols has been successful in convincing his bosses to see projects through, he knows it involves give and take. "You win some and you lose some," he said.

/ **By Hilton Collins, Staff Writer**

LAURIE PANELLA, LEFT, AND NANCY OLSON OFTEN FIND COMMON GROUND.

MATTHEW GILSON PHOTOGRAPHY

Milwaukee's Dynamic Duo

LAURIE PANELLA AND NANCY OLSON

Good things happen over a cup of coffee in Milwaukee. Regular, informal conversations between the city and county CIOs — usually before the workday begins — have sparked several collaborative projects, and they seem poised to produce even more.

It all began a few years ago when Milwaukee County lost its lease for data center space. The city had space in its data center and offered it to the county. In exchange, the county purchased a back-up generator for the city facility.

The fact that no money changed hands made the deal easier to swallow, said city CIO Nancy Olson, who meets with county CIO Laurie Panella every other month.

The success of that collaboration led to another. They created a shared Web portal — Milwaukee .gov — that provides access to city and county services and resources. The portal uses the city's existing content management system (CMS) and URL. Because they share the CMS, they split maintenance costs, Olson said, adding that the low-key arrangement works because the partners have put aside their egos and built a high degree of trust.

Now the city is redesigning its Web page, and the county may adopt the design — and help pay for it, Olson said. They've also discussed a shared email system.

The approach may not solve every budget challenge facing the city and county, but it provides some comfort to their CIOs. "The auditors like to ask what keeps me up at night," Olson said. "The answer is still 'everything' — but I do have a back-up generator now."

/ **By Steve Towns, Editor**

Dale Jablonsky

ASSISTANT EXECUTIVE OFFICER, IT SERVICES BRANCH, CALPERS

Dale Jablonsky wants to make technology sustainable in California government — which won't be easy. After 25 years at the state Employment Development Department (EDD), Jablonsky in 2010 moved to the California Public Employees' Retirement System (CalPERS), the nation's largest public pension fund, to oversee IT.

CalPERS was implementing a project to replace 49 of its 75 independent computer systems, more than 90 databases, and more than 300 interfaces with one integrated, sustainable enterprise system. After five years of work, phase one of the new system launched in September 2011.

To Jablonsky, sustainability means keeping software and hardware updated. "When properly funded, you can expand and change to meet legislative mandates and future business needs without having to do a lot of rip-and-replace projects."

Although the EDD took a piecemeal approach due to funding models, Jablonsky said the 15 projects he started there are either completed or are well on their way. "Both projects are ideal examples of IT modernization in California that can be modeled after by other agencies."

/ **By Elaine Pittman, Associate Editor**

JESSICA MULHOLLAND

LEFT TO RIGHT:
KEVIN HAUSWIRTH
JOHN TOLVA,
BRETT GOLDSTEIN,

Chicago's Digital Trio

KEVIN HAUSWIRTH, JOHN TOLVA, BRETT GOLDSTEIN

For decades Chicago has been held up as a pre-eminent example of city government operating behind closed doors, amid an air of secrecy and corruption. But last year, Rahm Emanuel was elected mayor due partly to his commitment to change how city government works.

> "WE'RE NOT ONLY TURNING THE PLOWS ON, WE'RE TURNING ON THE CONVERSATION OF HOW THE SNOW PROGRAM IS WORKING.

To that end, Emanuel charged CTO John Tolva, Chief Data Officer Brett Goldstein and Director of Social Media Kevin Hauswirth with using technology to revamp city operations and reshape public perception.

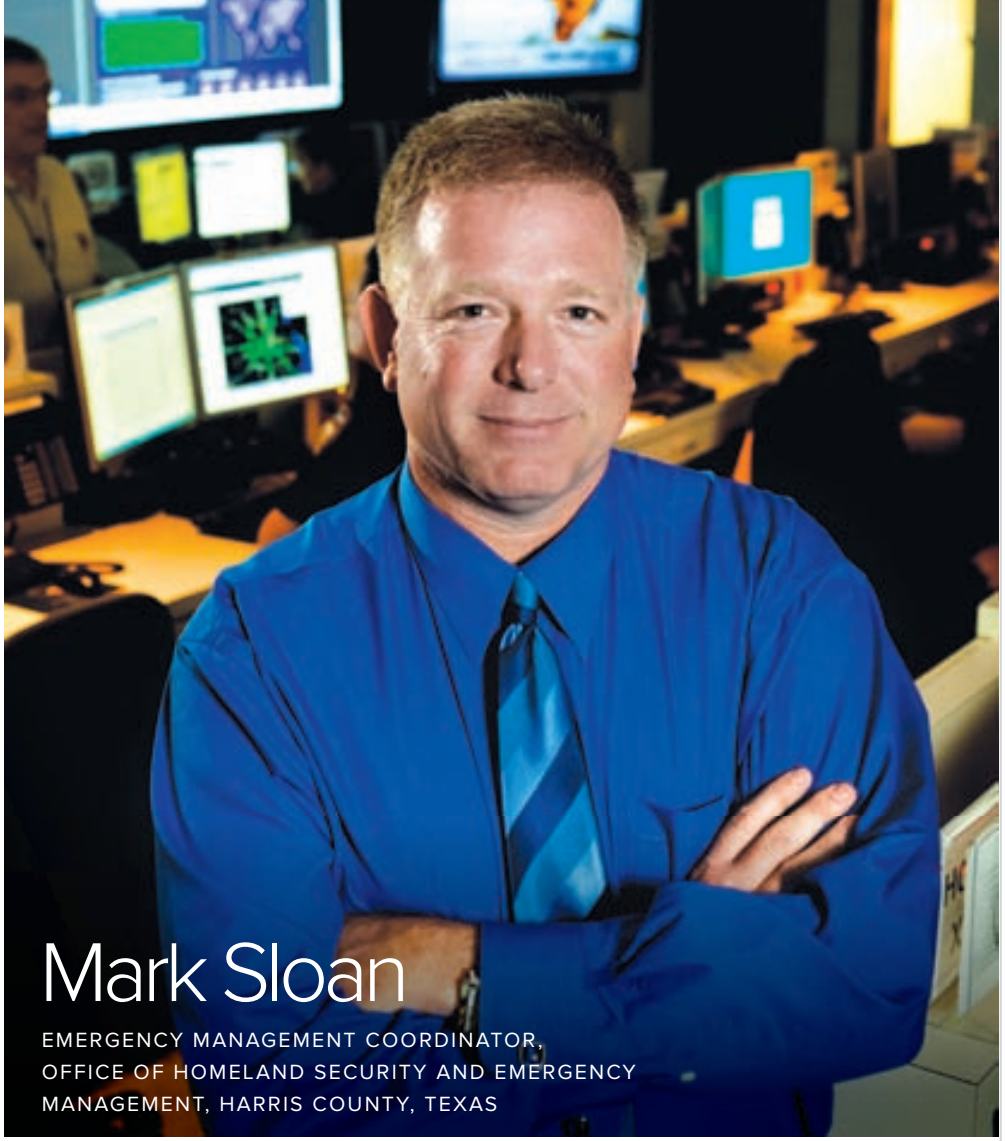
Tolva came to Chicago after serving as IBM's director of citizenship and technology. Goldstein, a former IT director for online restaurant reservation company OpenTable, became a Chicago police officer following 9/11, where he ascended to head of the Chicago PD's Predictive Analytics Group. And Kevin Hauswirth left his job teaching social media at Roosevelt University to join Emanuel's administration.

Not even a year later, thanks to the trio's efforts, the city has placed 200 data sets online, launched useful applications like WasMyCarTowed.com and ChicagoBudget.org, grown the number of town hall meetings, and is launching Open311 — an online 311 platform on which residents "can openly exchange information centered around a single public issue," according to Open311.org.

The city also announced a new "snow portal" at ChicagoShovels.org, which features a real-time map tracker that plots the location of snowplows. It also offers preparedness apps for snow safety and readiness, weather reports, and 311 access. The portal proved popular with Chicagoans during an early January snowstorm.

"During this whole [snowstorm], we're tweeting with people and answering questions people had about, 'Why is this thing over here? How is this working?'" Hauswirth said. "So as we turn the plow tracker on, now we're not only turning the plows on, we're turning on the conversation of how the snow program is working."

/ By Chad Vander Veen, Associate Editor



OSCAR WILLIAMS

Mark Sloan

EMERGENCY MANAGEMENT COORDINATOR, OFFICE OF HOMELAND SECURITY AND EMERGENCY MANAGEMENT, HARRIS COUNTY, TEXAS

Mark Sloan grew up with sports and dreamed of becoming a professional athlete. In fall 2008, he was honored at the 50-yard line of the Houston Texans' Reliant Stadium — not for what he'd done on the football field, but for his leadership during Hurricane Katrina.

That day, Sloan received the John C. Freeman Weather Museum's Hurricane Hero Award, one of several honors bestowed upon him for his efforts to mobilize some 60,000 volunteers to get 65,000 evacuees from New Orleans.

During his days as an athlete and coach, Sloan learned the value of teamwork and communication. He puts those skills to work as Harris County's emergency management coordinator, assembling teams that have automated flood warning systems and traffic management, enhanced Doppler images, and improved GIS mapping and regional interoperability.

He also created a tech team to develop one of the first websites devoted to tracking and assembling citizen volunteers. As director of the Harris County Citizen Corps, an award-winning preparedness initiative, Sloan knew where to go to coordinate evacuation efforts during Katrina. Citizen Corps helps organize people who'd like to better prepare for disasters, he told *Emergency Management* magazine last year. During Katrina, Sloan received about 1,000 emails an hour from corps members wanting to help.

Citizen Corps helped Sloan accomplish his goal of the three C's: communication, coordination and cooperation.

/ **By Jim McKay, Editor, *Emergency Management***

ANNE RYAN

Brian Kelley

CIO, PORTAGE COUNTY, OHIO

The structure of Ohio's 88 counties is embedded in the state constitution. As a result, Portage County — midway between Cleveland and Youngstown — has 18 elected officials, each with independent areas of responsibility and authority. County IT could thus be expected to end up in 18 different stovepipes, but in Portage County, CIO Brian Kelley has been building bridges for 21 years to "communicate, coordinate and consolidate IT" between elected officials and the 40-plus departments under them.

Those bridges have helped the county produce an integrated court system, GIS, and financial and payroll systems to improve efficiency, reduce costs and deliver services more effectively.

"We're recognized as one of the most integrated court criminal justice systems in the state," said Kelley, "and we're using technology [and] building those bridges so that we have one system going across many silos, fiefdoms, kingdoms."

Kelley's enthusiasm for coordination extends beyond the county. To spread the word, he's active in groups like the Society for Information Management and InfraGard. Kelley co-founded the Ohio City/County IT Association and teaches a public-sector IT graduate course that he created. He has a passion to share his information and expertise to help others be successful with IT implementations, procurements and operations. Says one admirer: "Brian Kelley is one of those unsung heroes who works tirelessly and passionately to educate government officials on public-sector IT at all levels of local government and to break down silos and barriers." / **By Wayne Hanson, Editor, *Digital Communities***

KENT STATE UNIVERSITY

Bill Lindner

DIRECTOR, CENTER FOR ACADEMIC & PROFESSIONAL DEVELOPMENT, FLORIDA STATE UNIVERSITY

In the early 1990s, *Florida Trend* magazine described the Sunshine State as a cow pasture on the information highway. When Gov. Lawton Chiles saw that unfavorable description, he asked Bill Lindner to do something about it.

As the secretary of the Department of Management Services, Lindner led a team in the '90s that moved Florida state government into the fast lane. Through conversations with the Netscape browser creators, video teleconferencing pioneers and Internet working groups, he realized how the Internet would change the way government relates to and serves its citizens. With control over IT services and back-end government processes, Lindner's agency created a website that connected government services to Florida's citizens and earned a hat tip from Bill Gates.

After he left state government in 1998, Lindner started his third career at Florida State University (his first career was in architecture). He headed up the university's distance learning efforts, founded the Center for Professional Development and started online learning certificate programs to help professionals improve their skills. Through a partnership with the Florida League of Cities, Lindner developed a program designed to create certified tech managers for state, city and county government.

Recently he oversaw the building of the $15 million, 30,000-square-foot Florida State Conference Center. This high-tech building boasts one of the largest video walls in the country, simultaneous webcasts from six rooms and video servers that capture and store this information.

"I'm really having as much fun today as I had 20 years ago," he said. "The media pieces are dramatically different, people are moving much faster, things have to be done more quickly, but it's all about how do you change the way government works by changing the way government thinks. And part of that is this technology."

/ **By Tanya Roscorla, Staff Writer**

BILL LINDNER

Thanks to Lindner, Florida's no longer a cow pasture on the information highway.

CrisisCommons Co-Founders

HEATHER BLANCHARD, NOEL DICKOVER AND ANDREW TURNER

What began as an attempt to learn how to best use technology in disasters became CrisisCommons, a global network of technical volunteers who help emergency responders and organizations. CrisisCommons co-founders Heather Blanchard, Noel Dickover and Andrew Turner met at a Transparency Camp event in 2009 and began gauging interest among their tech community peers in volunteering their talents to help with disaster response.

CRISISCOMMONS

From left to right: Andrew Turner, Heather Blanchard, Noel Dickover

In June 2009, a user-generated conference called a CrisisCamp brought together 200 people to discuss the topic. But it was the devastating 2010 Haiti earthquake that put the idea into action. Five days after the earthquake, more than 400 people in five cities worked on 13 tech-related projects. The following week, 14 more camps were held, and within 15 weeks, there were 65 camps in 10 countries, Blanchard said. Projects included creating a translation app and contributing to an open source map of the damage in Port-au-Prince.

CrisisCommons has become a liaison between response organizations and technical volunteers. To allow the organization to evolve, Blanchard and Dickover stepped down in January, saying that it's time for new ideas to pave the way forward. But they're still entrenched in the belief that the tech community can partner with others for untold benefits. Turner continues his work with CrisisCommons, while also serving as CTO for technology firm FortiusOne.

"I think the thing that CrisisCommons has done more than anything else," Dickover said, "is give people the idea that you don't have to be in a crisis to make a difference."

/ **By Elaine Pittman, Associate Editor**

COURTESY OF INDIANA UNIVERSITY

Brad Wheeler

CIO AND VP OF IT, INDIANA UNIVERSITY

Ten years ago, the vice president of IT at Indiana University told Brad Wheeler — then the associate dean for teaching and learning — that they needed to update their homegrown teaching and learning systems.

Wheeler's business school bias kicked in — he wanted to buy a new system rather than build another one in-house. "I absolutely thought this was nuts."

But after some research, building a system didn't seem like such a bad idea, especially if he could partner with other universities. In 2003, Indiana University launched its Sakai project to collaboratively create open source teaching and learning systems. And the university worked again with multiple institutions to build an open source suite of administrative applications, saving $17 million.

"This isn't just hobbies and chess," said Wheeler, now the university's CIO. "This is the real deal." Multiple collaborative projects now have pooled more than $60 million in investments from 50 institutions and 22 firms — and Wheeler sees this pooled investment as the way for universities to get more value for their money.

/ By Tanya Roscorla, Staff Writer

Michael Riedyk

CREATOR OF YOUTOWN

In growing numbers, citizens want access to government services on demand. To help agencies meet this need, Michael Riedyk of government cloud services developer DotGov created YouTown, a group of prepackaged apps that gives agencies a ready-made mobile platform for public data. YouTown's brilliance is in its simplicity — governments supply the data, YouTown provides the apps, and agencies simply toggle an array of settings to create a customized, near-instant mobile environment.

"We were discussing what would happen if you put mobile technology, social media and open data together," Riedyk said. "That resulted in the idea to build a mobile platform on a cloud that allows agencies — cities, counties, state agencies, federal agencies — to sign up and, with a just a few clicks, create a mobile presence."

Riedyk hopes that YouTown will be an automatic destination for government data. Governments wanting open data apps can get them without launching app development contests or using internal resources.

In June, he was one of 16 citizen software developers honored at a White House Champions of Change event, showcasing the potential of Web apps using government data sets. "We thought it was a unique idea to bring mobile government and social media together as a cloud solution," Riedyk said. "We're trying to seriously cut down costs and make government more effective by providing cloud solutions."

/ By Chad Vander Veen, Associate Editor

JAY PREMACK

Flint Waters

CIO, WYOMING

In 2008, Flint Waters appeared on *The Oprah Winfrey Show* to talk about the dangers of online sexual predators. At the time, Waters was a police investigator and chief of Wyoming's Internet Crimes Against Children (ICAC) task force. He was there to discuss software he developed to track down online predators by identifying computers that were trading child pornography on file-sharing networks — software that was used in Operation Peer Precision, which has been described as "the largest undercover operation in the world."

During his time with ICAC, Waters found more than 600,000 computers containing illegal pornography. He has been recognized as an expert in Internet child exploitation in state and federal court, and has testified before Congress on the challenges of protecting children from violence and exploitation.

When he became CIO of Wyoming last November, Waters brought this passion for protecting children — and networks — to his new role.

"In the past, the state stood up open government wireless access points with no transaction logging or authentication," Waters said in an interview last year, "and I know some of those were used by predators in an area where they are granted anonymity. In a sense, you have a business decision that provides a statute of limitations with these types of crimes, because if you don't catch the individual at the computer, they walk away and there's often no way to prosecute them."

Under his watch, the state is far more security-conscious. "I was the CTO for 46 ICAC task forces around the country, so I'm used to operating with disparate government requirements," Waters said. "The solutions that I built back then are in 34 countries now, so I have a fair bit of experience in dealing with large-scale enterprise solutions."

/ **By Jessica Mulholland, Associate Editor**

Flint Waters brings a passion for protecting children — and networks — to his role as Wyoming CIO.

GETTY IMAGES.COM

Christopher Mitchell

DIRECTOR, TELECOMMUNICATIONS AS COMMONS INITIATIVE, INSTITUTE FOR LOCAL SELF-RELIANCE

In 2011, the battle for the right of local governments to build their own broadband networks raged on, and at the heart of the firestorm was Christopher Mitchell, director of the Telecommunications as Commons Initiative of the Institute for Local Self-Reliance.

A national expert on community broadband, Mitchell has worked to educate legislators and rally supporters against the efforts of large telecommunications and cable companies that make it more difficult for cities and counties to build high-speed networks.

Since Mitchell began working on community broadband issues, he said the private sector has made it clear it won't build broadband networks everywhere they're needed. So efforts are being redoubled to protect the ability of local governments build a municipality-owned high-speed networks.

JESSICA MULHOLLAND

"It's not a matter of us working for some mandate that all communities build their own networks," Mitchell said. "We support the requirement that just like a community can build a road if it wants to, it should be able to build the networks they need to attract economic development."

In 2011, North Carolina enacted a bill that essentially bars community networks from being built. South Carolina is considering a bill that would place additional restrictions on rural communities looking to create their own networks.

"This is going to come up in state legislatures around the country," he said. "I hope we're able to rally more public interest and business groups to support the right of communities to make that decision themselves."

/ **By Brian Heaton, Staff Writer**

Jennifer Pahlka

FOUNDER & EXECUTIVE DIRECTOR, CODE FOR AMERICA

CHRISTOPHER MITCHELL

Sometimes dreamers are driven to pursue their ideas — a notion that's true for Jennifer Pahlka, founder and executive director of Code for America (CfA), an organization that unites government and the open source software development community. In 2009, Pahlka quit her longtime career in the tech event industry to launch the new venture. "I felt a strong conviction about it," she said. "I felt that we needed to at least try it."

Three years later, Pahlka's creation is helping to transform local government operations. The program, which matches open source development teams to cities with innovative ideas, has proven popular and productive. This year, CfA had 515 applicants, with only 25 fellowships to offer. And the previous round of Code for America fellowships produced apps that have been replicated nationwide.

The ultimate goal, Pahlka says, is to foster new notions of citizenship, where people think not just about the benefits of being a citizen, but also their responsibilities as citizens. She adds that the program's success is largely due to the innovation and passion of city governments — along with the commitment of many people who have invested their time, money and energy in it.

CfA continues to expand, with two new programs for citizen coders who want to contribute on more flexible terms or obtain startup funding and advice. "I feel like I have found my life's work," Pahlka said. "I couldn't be happier connecting these talented developers and designers to a mission that I think is really important."

/ **By Karen Stewartson, Managing Editor**

Code for America Fellows

Since Code for America (CfA) launched in 2010, the project, which seeks to help "governments work better for everyone with the people and the power of the Web," has become a sensation in city government.

In 2011, CfA's 19 fellows worked for 11 months in Boston; Seattle; Washington, D.C.; and Philadelphia.

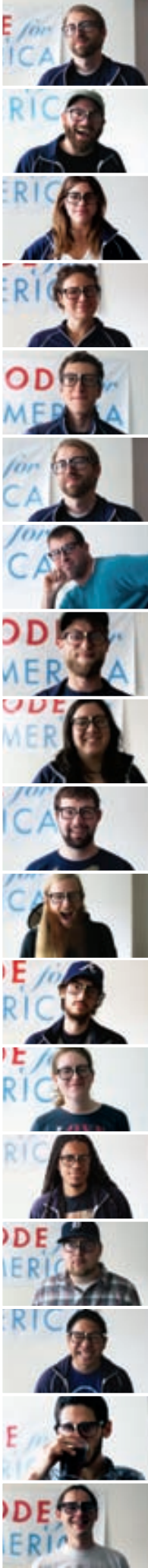
These developers, designers, analysts and researchers were embedded with host cities to help them undertake innovative projects they couldn't do on their own. The fellows were so successful in fostering innovation that there are now eight participating cities.

"The 2011 fellows believe in the promise that government is, at its heart, what we do together that we can't do individually," said CfA founder Jennifer Pahlka. "We live in an era where new tools and approaches make it possible to make this promise real, and these talented, passionate and courageous individuals brought their technical and creative skills to this important work."

Collectively the fellows wrote 21 applications, opened 72 data sets and attended 81 civic hackathons, Pahlka said.

"Most importantly, they partnered with countless change agents in government to try new approaches to connecting cities and their citizens," she added. "Along with the amazing, talented public servants who partnered with them, they're true heroes of a new movement."

/ **By Chad Vander Veen, Associate Editor**



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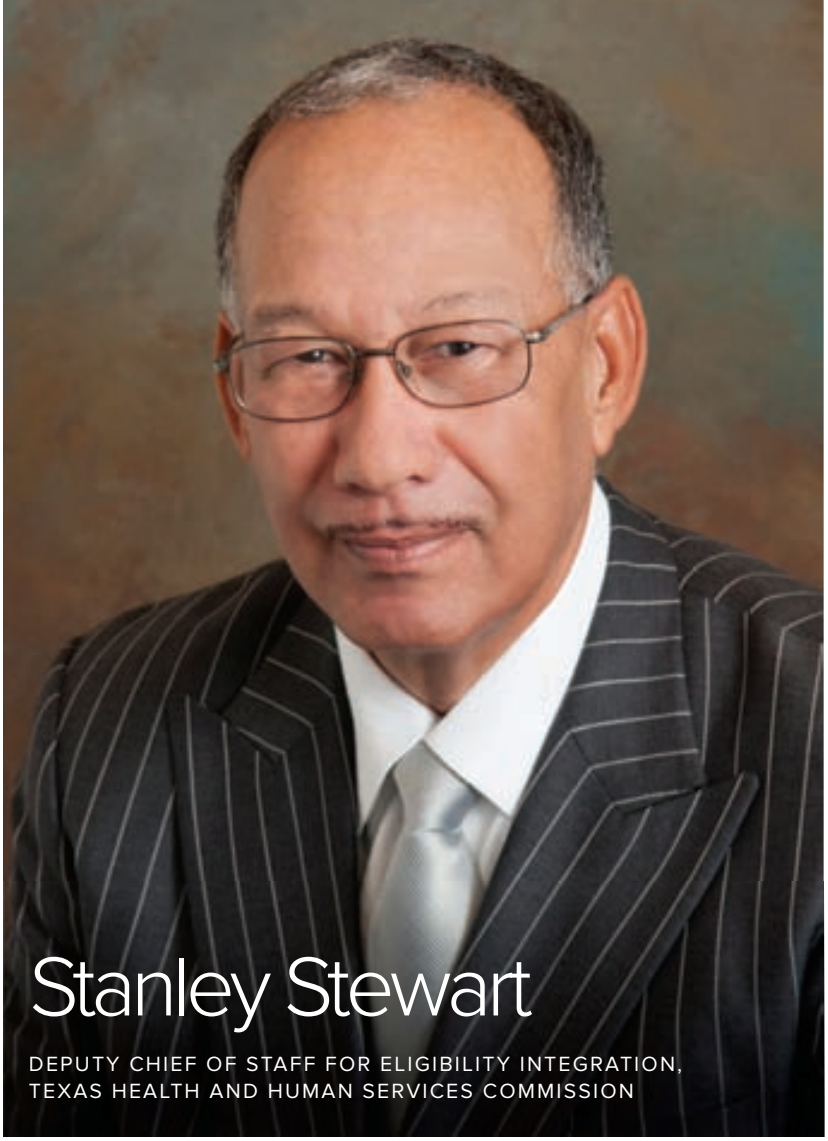

Stanley Stewart

DEPUTY CHIEF OF STAFF FOR ELIGIBILITY INTEGRATION, TEXAS HEALTH AND HUMAN SERVICES COMMISSION

STANLEY STEWART

New technology might make life easier for many, but it was "old-school" management from Stanley Stewart that helped the Texas Health and Human Services Commission (HHSC) turn the corner on deploying its benefits eligibility system.

The Texas Integrated Eligibility Redesign System (TIERS) had limped through an eight-year implementation period littered with failures, multiple integration companies and criticism. But in early 2010, Stewart was hired as a consultant by Tom Suehs, executive commissioner of the HHSC, to turn around the troubled project. Armed with total authority over the implementation, Stewart completed the TIERS rollout in December 2011.

This wasn't unfamiliar turf for Stewart, who ran a similar project in Michigan. He says his management style in Texas was predicated on convincing employees they'd be successful despite earlier struggles.

He said staff members "were a little demoralized" from previous failures — and communications between technology staff and system users needed to improve immediately.

Stewart intentionally started weekly progress meetings five minutes early to increase employee accountability. "You weren't allowed to take a shot at anybody, and we didn't play the blame game," he said. Using a phased approach, Stewart's team first rolled out TIERS in Lubbock, followed by a larger deployment in El Paso. With each success, employees further bought into Stewart's approach, ultimately finishing the job three months ahead of schedule.

/ **By Brian Heaton, Staff Writer**

John Nixon

DIRECTOR, MICHIGAN DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET

It's safe to say that where John Nixon goes, success usually follows.

During his four-year tenure as Utah's budget director, Nixon oversaw the state's $11 billion budget, teaming with CIO Steve Fletcher to successfully consolidate IT services. As a result, Utah is now one of a small handful of states with fully centralized IT operations.

Nixon then headed to Michigan where he now serves as director of the Michigan Department of Technology, Management and Budget. Since his arrival, he has led major efforts to strengthen the state's IT operations.

"I saw a state that had been down for over a decade," Nixon said. "I saw a state that was poised to make a strong comeback."

And that it has. Earlier this year, the Michigan Legislature approved a $2.5 million innovation fund, which will in part be overseen by Nixon. The fund will be used to execute IT projects that cost in the $100,000 to $200,000 range. Nixon said the projects will help state agencies work together to consolidate and share IT services.

Since Nixon took office, the state also has combined its physical and cybersecurity offices — making both sets of operations technology driven, and he intends to continue pushing the IT realm on all fronts.

"I think that our people are ready for change," he said, "and I think they're excited."

/ **By Sarah Rich, Staff Writer**

JOHN NIXON

DAVID KIDD

Kyle Schafer

CTO, WEST VIRGINIA

In 2005, West Virginia was consolidating its IT infrastructure under the newly created Office of Technology, and then-Gov. Joe Manchin hired Kyle Schafer to spearhead the effort.

Schafer soon noticed problems. The state's decentralized technology systems meant that agencies with different equipment couldn't read one another's files. There were 150 email domains being used by various departments, requiring support from more than 30 email administrators. The state also lacked spam filtering software.

Consolidation would save West Virginia money on tech expenditures, reduce workflow duplication and strengthen cybersecurity. But under existing law, Schafer didn't have the power to do it. "Our legislation didn't have the authority to do any of the things that Gov. Manchin wanted to do," he said. "So my first nine months on the job was crafting legislation around the newly formed office."

With new legislation in place, Schafer's efforts included creating a project management office to oversee IT initiatives; hiring the state's first chief information security officer, Jim Richards, who's still there; creating a state information security program; saving the state $130,000 by using an open source intrusion detection system; and eliminating duplicate processes by providing IT services from central IT instead of different agencies.

Schafer said that thanks to the changes, West Virginia saved about $8 million a year since fiscal 2006, and he's sure that agencies are satisfied. "We feel confident that we're meeting their expectations from a price and service perspective."

/ By Hilton Collins, Staff Writer

Debbie Conway

RECORDER, CLARK COUNTY, NEV.

DEBBIE CONWAY

When Debbie Conway became Clark County recorder in 2007, she stepped into a troubled office. Morale was low, equipment antiquated, and customers waited as long as three hours to record a document and another six months to get the document back. It took all day to open the mail with old-fashioned letter openers. A three-year backlog in property fee assessments meant millions in lost income.

Conway, who had private-sector experience bringing multimillion dollar projects in on time and under budget, sat down with IT and department managers and went to work outlining about 40 things needing quick implementation to get the office back on track. "I looked at it like one big project and broke it into phases," she said.

First came new computers, faster scanners and an upgraded recordation system. Next Conway streamlined processes. Boxes of title company documents were entered into an electronic system by an outside company, allowing staff members to access documents on computer screens to review and record. Conway also instituted a system to reduce waiting time and linked it to the Assessor's Office.

The changes Conway made serve her customers well, even during the economic downturn — which didn't reduce workload, since the recorder handles foreclosures and as many as 1,000 liens a day for default of such things as sewage fees or child support.

Now the backlogs are gone, wait times are a few minutes, and those letter openers? Tossed out; an automated opener does the job in minutes.

/ **By Wayne Hanson, Editor, Digital Communities**

Bryan Sivak

CHIEF INNOVATION OFFICER, MARYLAND

A poster on the wall of Bryan Sivak's office offers up this quote from Southwest Airlines Co-Founder Herb Kelleher: "We have a strategic plan. It's called doing things." As Maryland's first chief innovation officer, Sivak has taken that example to heart over the past 10 months.

Upon his arrival last May, Sivak was tasked with helping to quickly implement some of Gov. Martin O'Malley's signature initiatives, like creating a health insurance exchange, and addressing issues like broadband access and engaging citizens in their government via social media and other technologies.

In less than a year, Sivak launched a grant program to help local governments start bike-sharing initiatives, as well as a microgrant program for the state Department of Health and Mental Hygiene that funds implementation of employee-generated ideas for low-cost ways to improve effectiveness and efficiency.

"The idea," Sivak said, "is that the people who have good ideas are on the ground doing the work."

He's also initiated crowdsourcing so that citizens can comment and add suggestions about ways the state can improve programs and operations. And he's working with the University of Maryland and a California design firm to redesign the state Emergency Operations Center from the ground up. "It's a complete reimagination from the physical and technological aspects," he said.

Perhaps one of Sivak's proudest accomplishments is the way he's tackled Maryland's technology transfer problem. The state ranks No. 1 per capita in the nation for the receipt of research and development dollars, he said, but falls to No. 37 when it comes to commercializing these lab-developed technologies. In response, Sivak helped launch a nearly $6 million Maryland Innovation Initiative — a partnership between the University of Maryland, Morgan State University and Johns Hopkins University designed to bolster the state's ability to commercialize research breakthroughs.

The Innovation Initiative also includes a focus on accountability. Sivak said Maryland will create a "Commercialization Stat" function within its StateStat management infrastructure to track results. "It's easy for us to announce a new technology and throw money at it, but it's much harder for any institution to stand up to what they say the technology is going to do," Sivak said. One suspects Kelleher would agree.

/ **By Jessica Mulholland, Associate Editor**

DAVID KIDD

Maryland's Bryan Sivak wants to make sure that innovation produces results.

Larry Godwin

DEPUTY COMMISSIONER, TENNESSEE DEPARTMENT OF SAFETY AND HOMELAND SECURITY

Larry Godwin sets the bar high and the citizens of Memphis are safer because of it.

In 2005, then director of police services for Memphis, he reached out to University of Memphis criminology professor Richard Janikowski, and together they developed the Crime Reduction Using Statistical History methodology. Godwin, who was appointed as deputy commissioner of the Tennessee Department of Safety and Homeland Security in 2011, agreed to share crime statistics with Janikowski and his staff, who in turn provided statistical analysis of incidents involving gangs, guns and drugs.

Later the city had the idea of developing a crime center. Godwin visited New York City's real-time crime center and was impressed — to a degree. "It was real time, but it was limited," he said.

SUSAN K. LOWE

Memphis' original crime-center plan started small, consisting of a few cameras and small office to monitor them. "We were going to set up some monitors in there and put some limited-duty officers in there to look at stuff that comes in," Godwin said.

But he envisioned more. "I had a vision: 50 monitors with rear projection screens; officers sitting at monitors feeding [officers on PDAs] immediately and those officers responding; a ticker tape of crime running every minute."

In 2008, Godwin's vision became a reality. "Remember that ticker tape I talked about?" he asked. "It's tracking crime every four minutes."

/ **By Jim McKay, Editor, *Emergency Management***

Greg Wass

CIO, COOK COUNTY, ILL., AND FORMER STATE CIO

ANTONIO OFTELIE

Governments in Illinois don't have a sterling reputation. A litany of disgraced politicians has fueled the nation's perception that public servants in Illinois are incompetent, stuck in their ways — or worse.

Greg Wass is trying to change that bad narrative by using new approaches to improve efficiency and change people's lives. "I view technology as an enabler of better business processes," he said.

That isn't just lip service — Wass is college educated in economics and worked for several years in the private sector. His approach has resulted in a heavy dose of shared services and system modernization. As state CIO in 2007, Wass laid the foundation for a health and human services framework that's moving several state agencies onto a service-oriented architecture. He also rescued and led the successful rollout two years ago of a new Web-based unemployment insurance system that went live ahead of a big election.

Wass went to Cook County in 2010 to alter another organization with antiquated technology, by replicating and improving on what he did for Illinois. Wass is planning a single time and attendance system and a new ERP for the county, and he sees great potential in cloud computing and a multi-tenant IT environment to drive further improvements.

And as he did in Illinois, Wass is helping the county put data online. Cook County Board President Toni Preckwinkle's administration sees technology as a tool to transform the county's sad history of corruption. Without strong executive support, Wass said his successes wouldn't have been possible.

/ **By Matt Williams, Associate Editor**

V. James Onalfo

CIO, NYC POLICE DEPARTMENT

JIM ONALFO

Jim Onalfo's first day as CIO of the New York City Police Department was nearly his last. Coaxed out of retirement by Police Commissioner Ray Kelly in 2003, Onalfo stepped into a mess. From an IT perspective, the department was woefully understaffed and worst of all, it lacked a viable disaster recovery plan.

The lack of disaster recovery gave Onalfo second thoughts about his new job, but he stepped up instead of walking out, bringing to bear skills he'd honed as CIO of blue-chip companies like General Foods and Kraft. With backing from Kelly and Mayor Michael Bloomberg, Onalfo pushed through a disaster recovery initiative that had languished for years. To alleviate staff shortages, contracts were structured so that vendors continued to support major projects long after deployment.

Eight years later, Onalfo's record boasts an impressive string of accomplishments. In 2006, the NYPD opened its Real Time Crime Center, a sort-of mission control for city police. The $12 million facility taps into 36 information databases, including emergency calls, crime reports, criminal records and police vehicle locations. It's a one-stop shop for crime data and analysis that's available to all officers and detectives. The department also launched an online case management tool for detectives, completed a long-awaited evidence tracking system and implemented facial recognition technology.

That record, accomplished in one of the nation's most complex bureaucracies, is a testament to Onalfo's skill and tenacity. GT

/ **By Steve Towns, Editor**

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Power to the People?

Ready or not, personal mobile devices are coming soon to a government network near you.

Introduction

BY WAYNE E. HANSON | EDITOR, DIGITAL COMMUNITIES

IT SHOULD COME AS NO SURPRISE to hear that the world has gone mobile. Over the past few years, a cornucopia of wireless devices has poured into the pockets and handbags of eager users — from Apple iPhones and iPads, to hundreds of Android-based devices, e-readers and the Microsoft Windows Phone 7.

As owners become wedded to their wireless devices for everything from communication to navigation, news, games and photography, they expect to use them for work as well. Some 87 percent of private-sector businesses already allow their employees to use personal wireless devices on the job, according to a September 2011 report by Dell KACE, most often connecting to email and calendaring applications.

Integrating wireless devices into city and county operations isn't a new idea, as public safety, parks and recreation, building and restaurant inspection, and many other essential government functions have long employed mobile technology. The devices, however, have most often been owned and tightly managed by the jurisdiction, and issued only on an as-needed basis for government work.

But the advance of mobility and device convergence has created — according to a 2010 Forbes/Google report — "an unprecedented blurring between working and personal existence." CNN reported last year that 63 percent of work-related mobile devices are used by employees for personal activities, and many employees also use personal smartphones for work-related tasks. This new landscape is forcing cities and counties to re-examine policies, technology and strategies related to the use of mobile devices in the public sector.

There are benefits to allowing the use of personal mobile devices for city and county work. For example, Gordon Bruce, CIO of the city and county of Honolulu, said that if correctly managed, workers' personal mobile devices could end up replacing some of the jurisdiction's desktop computers. "Which means we won't have to pay for them, which means the taxpayer won't have to pay for them," Bruce said. "So I like that idea."

But managing these devices is a concern, and regardless of whether they are owned by the jurisdiction or by the employee, increased mobility brings increased risk. Malware targeting these devices has grown exponentially, leading one security vendor to call 2011 the "year of mobile malware." And according to one survey, 77 percent of U.S. cellphone users reported losing at least one such device. The dream of desktop computers bolted to the desk behind a firewall is being eclipsed by the nightmare of staffers talking, texting or Web browsing using a variety of devices on different platforms over unsecured Wi-Fi hot spots.

Most cities and counties interviewed for this special section were still developing and testing various technology and policy approaches to mitigate risk while reaping some of the benefits of mobility, flexibility and anytime/anywhere access. In most cases, nothing terrible has happened, but adoption has just begun.

WATCH A VIDEO
See Honolulu CIO Gordon Bruce discuss his BYOD initiative
www.govtech.com/videos

About This Report

This report is based on the activities of the Digital Communities program, a network of public- and private-sector IT professionals who are working to improve local governments' delivery of public service through the use of digital technology. The program — a partnership between *Government Technology* and e.Republic's Center for Digital Government — consists of task forces that meet online and in person to exchange information on important issues facing local government IT professionals.

More than 1,000 government and industry members participate in Digital Communities task forces focused on digital infrastructure, law enforcement and big city/county leadership. The Digital Communities program also conducts the annual Digital Cities and Digital Counties surveys, which track technology trends and identify and promote best practices in local government.

Digital Communities quarterly reports appear in *Government Technology* magazine in March, June, September and December.

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Michael Armstrong, CIO of Corpus Christi, Texas.

OAKLAND COUNTY, MICH., CIO

Phil Bertolini says a transition to mobile devices is inevitable, but he understands why some jurisdictions reject the idea of letting employees use their own devices for work — an approach that's called "bring your own device" or BYOD. "They're bogged down with 8 million other things they have to accomplish, and someone walks in with an iPad and says 'I want to connect to our email.' Now what am I going to do? The easy answer is to say, 'We're not going to do that.'"

Bertolini saw the trend building and got the county moving early with a few users in pilot projects to test the concept and debug problems while the user base was small. Currently personal devices are only allowed into the system for email or Web apps where the county has built-in security.

Similar pilots are under way in the city and county of Honolulu. "We're using iPads, Androids, MacBooks, Mac minis, and we're vetting them through the system to make sure they're secure," said Honolulu CIO Gordon Bruce. "The approach we're going to take with them is something like: 'Here are the procedures, here's how you introduce it to the system, but we're not going to support it. If it doesn't work, it's up to you and your carrier to determine how it's going to work.' That way we can get it in quickly, and then we'll see what resources it will take over time to manage it all."

BYOD requires a rethinking of how things have been done, said Michael Armstrong, CIO of Corpus Christi, Texas. The technology industry's shift toward virtualized and cloud-based services will make it easier for governments to take advantage of increasingly powerful mobile devices.

"I think over the next five years, we're going to see the way software is delivered change radically. I'll be surprised in five years if we're actually hosting anything here," he said. "I think it will be lighter applications written for multiple devices, and it's going to be a different ball game. So we have to be ready to turn 180 degrees from what we've been doing all our lives, and embrace something that's probably going to be a little more chaotic."

> "I would love a single device, or to leverage the diverse and explosive offerings of the mobile market for my enterprise."

Corpus Christi has an established citywide wireless network and doesn't allow privately owned devices to access the internal portion of the network. Armstrong is concerned first about security, but he's convinced that change will come as better solutions are found for end-point security. Currently users go to the Web for email and calendars, and government information isn't stored on the devices. "We just went to Microsoft's cloud-based email, so they don't even have to come into our system," Armstrong said. "And lost or stolen phones are no longer the city's problem."

"BYOD is a big topic for all of us," said Clark County, Nev., CIO Laura Fucci, in a post to a Digital Communities Collaboration site. "I'm a gadget gal with an Android phone, an iPad and various other personal devices ... and a BlackBerry for the office. I'd love a single device, or to leverage the diverse and explosive offerings of the mobile market for my enterprise. However, I'm also very aware of my responsibility to ensure protection of the confidential data entrusted to me by citizens." As a result, Clark County has so far restricted access of non-county-owned devices to virtual private network (VPN) connections and requires that the device meet all county-provided standards including firewall and anti-virus software.

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Succession Planning and the Generational Thing

While replacing retiring baby boomers was a huge issue for IT leaders a few years ago, the economic doldrums slowed retirements and new hires. But the issue is back, if a meeting of the Digital Communities CIO Task Force in late 2011 is any indication. Succession planning was a top issue for discussion, and that could indicate a need to make local government workplaces more competitive to young hires, as well as accommodate a younger, more connected public.

"Their use of technology is radically different from folks in my generation," Armstrong said. "That's how they live their lives, even my kids do that. They would much rather text than make a phone call. And they're used to being connected all the time. We try to look into the future and account for those things that are going to happen for us, and some of the old monolithic control models are breaking down. We've been through this in the old days when PCs came into the mainframe environment, and that's a very close parallel. I think you are always more successful if you try to embrace new technology rather than keep it out of your environment.

Phil Bertolini, CIO, Oakland County, Mich.

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Modesto, Calif., is deploying iPads, along with Apple and Android smartphones, for tasks like managing legislative agendas.

Your customers will stay happier, and you're going to get more work done. And I think there are ways of mitigating the risks with that."

Ironically the drive to BYOD is also being championed in some cases by top executives — young elected officials who grew up with personal computers and cellphones and who bring their mobile devices to work in the mayor's office, city council or county commission. As executives, their workday may extend beyond normal hours, they may need to be on call for emergencies or to stay informed. In such circumstances, integrating a personal device just makes sense, especially if the alternative is telling the boss, "No, you can't use your iPad for work."

"We've been fortunate with iPads," said Armstrong. "The mayor has his own, our new city manager came in with his own, so this is not unknown territory for a lot of our people. All of our assistant city managers have them, and everybody who has one loves it. ... Carrying an iPad, they still have access to email, some business applications and they're wonderful for note taking."

Modesto, Calif., is another city deploying iPads, along with Apple and Android smartphones, for tasks like managing legislative agendas.

"In the field, we've also outfitted a lot of our officers as well as executive staff who want to do procurement," said CIO Bryan Sastokas. The challenge now is with public safety, he said. "We can secure devices, and we can also secure the back end. We're working on securing the communications, so that when a drug enforcement agent goes out to do a bust ... they know they are not going to have those communications hijacked."

Currently only city-owned tablets access critical internal systems, such as agenda management, GIS mapping and procurement, said Sastokas. Smartphones — iPhone, Android and BlackBerry — are both city-owned and employee-owned, with access

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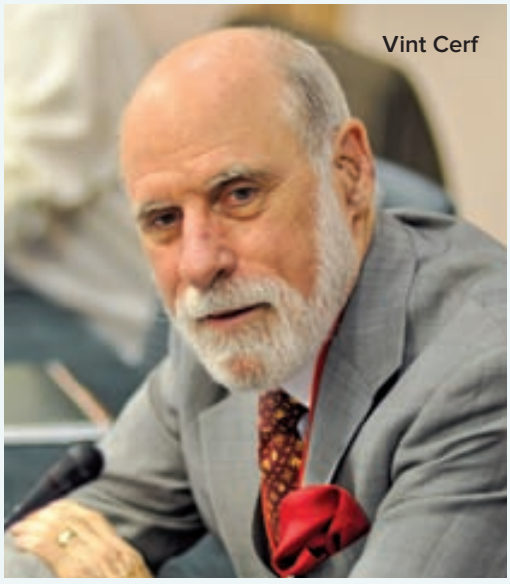
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dependent on what services and applications the employee needs.

Securing Personal 'Devices *du Jour*'

Late last year, Internet pioneer Vint Cerf told the *Financial Times* that to reduce or eliminate security problems, he'd suggest the Internet be "done over." In the same article, a security expert said, "The fight to secure the current Internet is unwinnable."

In the face of unrelenting attacks, patches, upgrades and well publicized releases of confidential data, how can a jurisdiction seriously consider lashing a bunch of privately owned wireless devices — with a variety of operating systems and hosting an unknown number and variety of apps — to a government LAN?

Clark County's Fucci said she certainly doesn't have all the answers. "With HIPAA, [Health Insurance Portability and Accountability Act], CJIS [Criminal Justice Information Services] and personal data laws, I have not conquered data protection when our perimeter is expanded to include everyone's personal device *du jour*.

Late last year, Internet pioneer Vint Cerf told the *Financial Times* that to reduce or eliminate security problems, he'd suggest the Internet be"done over."

I am also unclear what this means with discovery requests."

Oakland County's Bertolini said that while much county data is public record, he is very worried about confidential data. "The areas that concern us the most are public safety and health and human services because of HIPAA. So what we've done in those areas, is work through policy. You don't want them using their personal email to send that kind of data.

"Everyone has security in their data centers," Bertolini added, "and you can spend millions on that. So everybody has a decision point: 'This is how secure I want to be, and this is how much I'm willing to spend.'

"For example," he said, "when we were working on our website a number of years back, they said, 'Well you can be up 99.5 percent of the time, or you can be up 99.9 percent of the time.' And my first question was: 'How much is it going to cost me to go from 99.5 to 99.9?' It was some ungodly number. So if I'm worried about eight hours a year, am I going to spend $400,000? Those are the same kind of decision points I think we are going to have with these devices. How much am I going to put in place, how much am I going to pay for it, and then how much more secure does that really make me?"

Policy gaps need plugging as well; technology can't do it all. "We assign a laptop to somebody, and they put all their data on the laptop and then they lose it. So what's my security there?" said Bertolini. "The question is: 'Why did you allow them to take a laptop out with that data on it to begin with?'"

Oakland County's electronic communications policy is short and to the point, with only seven items covering such specifics as no expectation of privacy, password protection, prohibited uses and so forth. Another short policy covers use of social networks. The policies are being updated to include use of personal devices.

Bertolini said the county has a public wireless network for attorneys to use at the courthouse, and that staff already log on to it with personal devices, so use of personal devices has been allowed but is restricted to email and password-secured apps. The next step is a VPN for use by staff mobile devices, he said.

Phoenix Chief Information Security Officer Randell Smith said the city requires that any device connecting to its network use VPN. But the city also requires access to personally owned devices that contain city information, so there have been few takers, he said.

To handle some of these issues, said Phoenix CIO Charles Thompson, the city is investigating a mobile device management platform that would help set policy on what could be accessed, what happens in case of loss or theft, etc. "Some folks were uncomfortable, saying, 'This is my personal device, how can you limit where I can go?'" said Thompson, who at press time had taken a new job as CIO of Houston. "But if you are going to use it for city business, you are going to have to adhere to city policy. So we will end up having a city-owned device policy, and a personal-owned device policy, and a mobile device perspective when we've finished our work."

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What About Discovery?

Another obstacle to BYOD that comes up repeatedly with local government is e-discovery. A city or county, for example, gets a subpoena for records related to some issue. But much of the discussion pertaining to the issue went back and forth via email on personally owned devices. What does the jurisdiction do then? While most jurisdictions reported few instances of discovery, an unprepared city or county receiving such a subpoena can find itself in serious legal trouble.

Charles Thompson, former CIO, Phoenix

DAVID KIDD

"The discovery issue is worrying me more than the privacy issue," said Bertolini. In many cases, he said, email leaves no record unless the user saves it in the "sent" box or the recipient saves a copy. "There was a [Michigan] Supreme Court ruling recently regarding [the Freedom of Information Act], that if you release someone's email, you have to redact all the personal email out. That's difficult. If you apply that same theory to keeping the data, then the people who are actually performing the function have some requirements in regard to what they keep for discovery. So if I am working on a project that is going to set a county policy and I have a document that talks about that, then I either have to keep a hard copy or an electronic copy."

Bertolini said discovery is difficult even without the added concerns of BYOD. "It's been confusing for us, because they keep ruling in different ways as to how you have to redact data, or include data, or what's included or is not included. Then there are tax, confidentiality and privacy laws that require certain pieces of information to be redacted. Old Social Security numbers are a perfect example. Federal law says you cannot give out people's Social Security numbers. There are some things that are concrete but other things that are open to interpretation."

Despite concerns about discovery, Bertolini thinks that policies requiring staff to turn in their personal devices in the event of a discovery subpoena will be counterproductive as they will discourage people from using personal devices for work. "Then you lose some of the benefits of the tool itself," he said.

Help Desk and Support

As mobile devices proliferate and innovative mobile services emerge, Gartner predicts that employees will become more like consumers, demanding a choice of devices — and enterprises will be forced to develop and support applications on a wider range of platforms than ever before.

Not surprisingly, the addition of new devices and different operating systems was seen by some as a challenge for tech support and help-desk staff. Roy Stone, a system support specialist for Long Beach, Calif., who replied via the Digital Communities Law Enforcement Information Technology Task Force, had this to say: "Even today I find a great many users who struggle with what I consider to be basic computer literacy — moving files, renaming files, finding files, creating a folder structure, adding a printer, making a printer the default, etc. This, to me, will exacerbate the already-heavy demand placed on tech-support personnel. Having more than the basic working knowledge of most desktop applications is almost a full-time job and now to add additional hardware and operating systems will likely overburden tech support personnel beyond the point of being able to deliver quality service.

"I believe BYOD is inevitable," he added, "but so will be the addition of more tech support personnel."

Even though BYOD users aren't supposed to expect support from an agency help desk, it's inevitable that support demands will increase as employees bring their own technology to work, said Steve Emanuel, former CIO of Montgomery County, Md., who was recently appointed New Jersey CIO.

"Those of us who have been doing this for a while realize you can't get away from it. It's no different than providing some level of assistance for work-at-home users who are using their own PCs," he said. "We feel helping early adopters with application choices and device configuration will be a plus. Again, support will focus on ensuring there's an understanding of the device-use implications and an added focus on security."

Others are addressing support concerns through policy.

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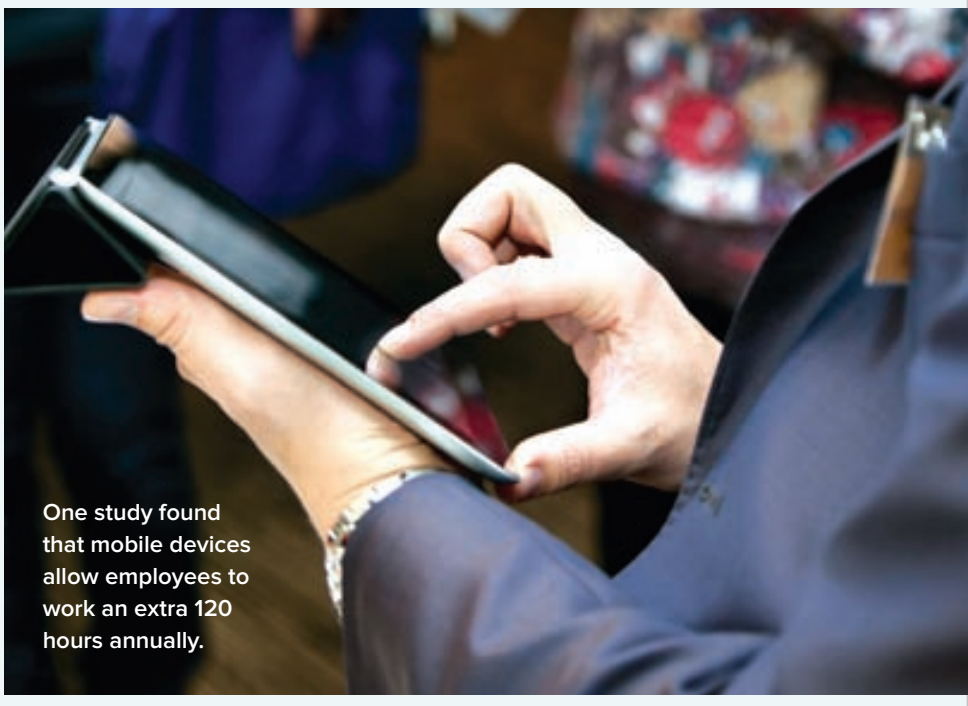

One study found that mobile devices allow employees to work an extra 120 hours annually.

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"We require that whoever buys iPads, gets the extended warranty," said Armstrong, "because we don't work on them, we don't have those skills. I'm not sure you can even get into them. But we've had very few requests for training. Probably the most frustrating thing about the iPad is having to go through iTunes to get applications. Once we get to 100 units, we're probably going to have to work out some sort of enterprise method of application delivery."

Mobile Device Management

A number of jurisdictions are considering or currently implementing a mobile device management platform to outsource many of the complexities of managing personally owned devices. These platforms can partition devices to separate personal and work activity, so ownership is less of an issue. Providers include AirWatch, MobileIron, SilverbackMDM and Zenprise.

One frequently mentioned option is Good Technology, a California-based firm that specializes in mobile device management. *[Full disclosure: Good Technology is a sponsor of the Center for Digital Government's annual thought-leadership white paper.]*

"The discovery issue is worrying me more than the privacy issue."

The company's technology provides a Web-based console where administrators can enable mobile access and set associated policies, said John Herrema, senior vice president of corporate strategy for Good Technology.

Users are then provided an activation key. They visit the Android marketplace or Apple app store, download the Good Technology client to their mobile device, and enter the make and model of their devices. They enter the activation key, and the company authenticates them and sets up an encrypted path between the device and the enterprise. The solution also segments content, partitioning the user's personal information and activities from the government side.

"We don't want the user or other applications to be able to extract that data and put it in the personal applications or services," Herrema said. "While the user might want to do that, it's obviously not very good from a security officer or data loss standpoint. So within our application, we build in controls where we can block the flow of documents or attachments to other applications, we can block cut-copy-paste, so you can't physically move the data. Unfortunately users will sometimes put credit card numbers and other personal data into an account or email message. So by closing off and controlling our solution, we encrypt our own data, using our own encryption keys, and we are able to isolate what's happening on the business side effectively from the personal side."

Both Android and Apple devices are susceptible to being "rooted" or "jailbroken" — a process that gives users administrator-level access to these devices, allowing them to alter system applications and settings. Solutions like Good Technology will block rooted or jailbroken devices from accessing enterprise networks and delete government data from such devices.

Although these solutions are categorized as mobile device management, they're really managing mobile data security, said Herrema.

"For example, I could put a password on the device, but if the data — once it's on the device — could be extracted by an API [application programming interface] and copied up to a cloud service, it doesn't matter if I have a password on the device anymore," he said. "You really need to think about the data and the applications and how they behave, because if the data and the applications aren't

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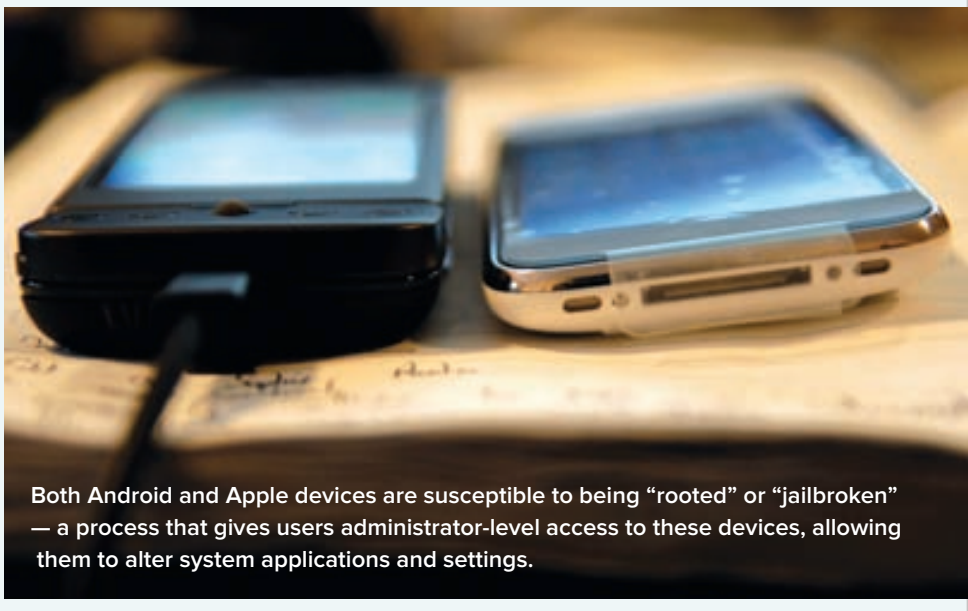

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Both Android and Apple devices are susceptible to being "rooted" or "jailbroken" — a process that gives users administrator-level access to these devices, allowing them to alter system applications and settings.

secure, it may not matter whether you're managing the device. These iOS and Android platforms have a lot of other applications on them, with very open frameworks and APIs for access to data, so you have to be very careful so the applications themselves and the users don't become a problem — not so much the hacker."

Currently the smartphone and tablet market is dominated by two platforms: Google's Android and Apple's iOS — making it somewhat easier for CIOs to decide where to focus their efforts.

"Right now about 70 percent of the devices we're activating are based on the iOS platform, so that would be different flavors of the iPhone or iPad. The other 30 percent are Android devices. And we're not seeing any notable traction for other platforms right now," said Herrema. "We'll have to see what happens to the Windows Phone 7 that Microsoft and Nokia are starting to roll out."

Because mobile device management solutions segment work data and personal data, users can immediately wipe work data from a lost or stolen device — even if they wait longer before deleting personal information. "They can make a personal decision about whether they want to wipe the rest of the data, or wait until they get home, because maybe the device is under the sofa cushion," Herrema said. "So by having that clean separation, we not only get better security, but actually better user behavior."

Mobile device management solutions also can eliminate the need to confiscate user devices in order to deal with e-discovery.

"We don't allow that data to leak off into other applications. So I don't have to take the user's device back," he said. "I know the data couldn't have left those business applications — and those business applications are always synchronizing their data back to my mail servers, that are sitting on premises. That's one of the reason health care, for example, is one of our largest segments, because they have both HIPAA and e-discovery challenges."

Desktop virtualization is another technology that will help build the case for use of personal mobile devices. Bertolini said that with cloud computing and secure passwords, the mobile device consumes the app, and doesn't store any data on the client. That means there's no data sitting on a personal iPad if a device is lost or stolen. There are still policy issues to address, said Bertolini, for when a user, for example, opens a Word document and saves it to the device.

ROI: Rubber Meets Road

At home, mobile devices can be fascinating. On the highways, they can be a dangerous distraction. According to city and county officials, integrated into government operations, mobile devices can provide productivity gains, cost savings and better service to the public. But there are some significant hurdles in both policy and technology to make effective use of them while avoiding the liabilities. As usual, the risks and rewards must be weighed. And where the rubber meets the road is return on investment.

Corpus Christi tried an interesting strategy. Instead of having employees pay for personal use of government-provided phones, the city simply stopped furnishing cellphones but now provides reimbursement for business use of personal phones. "Our savings are about a quarter million dollars a year," said Armstrong. "There was some resistance at first, but people realized they had a lot more choice in what device they could use — Apple sold a lot of iPhones that month."

"I don't submit a request for reimbursement for my 3G plan," said Oakland County's Bertolini, "because I use it for personal use and I do my email, it just makes me more productive. The other issue is, I'm much more mobile with this device. I have an iPhone as well, so when I'm somewhere, I can pop open my iPad, get into my email and answer the questions that need to

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Steve Reneker, CIO, Riverside, Calif.

Reneker partly credits the use of mobile devices — by the public as well as city crews — with improving response to public concerns.

be answered. I can do that any time of day, anyplace I am. And I'm using my personal 3G data plan to do that."

Surprisingly, perhaps, using mobile devices during work hours to do personal business, play games, check Facebook, etc., did not come up as an issue. To the contrary, most people interviewed for this special report discussed their own increases in productivity, their ability to work at home, their connectivity to email, etc., as major advantages to BYOD. As Bertolini said, most jurisdictions already have a policy in place that deals with proper use of work time, which covers those bases.

And some research by iPass backs up the general sentiment. Mobile-enabled employees work an average of 240 more hours per year, according to the research, and waste about 28 minutes a day on "technology distractions" — roughly about 121 hours annually, a savings of some 120 hours. "In net," said the report, "the average productivity gains that mobile workers reported far outweighed technology distractions."

"The challenges are on exempt versus nonexempt employees," said Riverside's Reneker. "You can easily do that for your exempt employees, but when you get into the nonexempts, or those who are part of bargaining units that may require overtime, that might become a sticking point. I think that depends on each organization and bargaining unit whether they are going to be able to allow it so that employees can freely take advantage of those platforms without demanding overtime for use."

Reneker partly credits the use of mobile devices — by the public as well as city crews — with improving response to public concerns. "The biggest app we have is our 311 app," he said. "Basically it's a camera. The first screen that comes up is a camera, so you can take a picture of a pothole, dead animal, graffiti — any blight that might be in an area — and we've developed back-end integration so that it gets entered directly into our Oracle Siebel CRM platform. If it's graffiti, we already have a back-end process where it forwards right out to a graffiti abatement crew. If it's something — classified as 'other,' for example — that we don't have back-end integration for, a 311 operator looks at it and forwards it to a department for resolution. It's that level of responsiveness and requirements that we're going to see more and more need for.

"From the standpoint of the employee, they gain benefits from the same applications that we roll out to the public," Reneker said. "Even when they are on work, they can report issues that they might not otherwise do by leveraging the same devices. But being able to leverage some of the mapping components, you no longer need navigation in your vehicle, you now can leverage those devices to do those kinds of things. We're also able to deliver more sophisticated applications internally — integration into the help desk, to manage and create help-desk tickets, so that it's seamless to Outlook and Exchange in the back end. Those are really the primary uses we're seeing today. But I also see that it's going to offer more advanced capabilities for being able to link into video security for public safety purposes, once the security aspects are clearly defined and addressed."

"These devices are low cost, for the most part, and very functional," said Bertolini. "So if you have field workers that [go] out to see a company that's thinking of locating a business in your area, and you're able to take that iPad and show an aerial photograph and then be able to zoom in and look at lot dimensions, vacancy and all those different issues, that's a pretty powerful tool. So having that data at your fingertips, and the tablet just makes it much more user-friendly."

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CASE STUDY

Performance and Progress

A Maryland county raises efficiency and creates opportunities with IT management software.

Howard County, Md., is known for a pleasant quality of life that blends the old and the new. Its county seat is Ellicott City, which is older than the United States. Nearby is Columbia, one of the original planned cities in the U.S. and just 45 years old. Ellicott City/Columbia was ranked #2 by *Money* magazine on its 2010 list of Best Places to Live.

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No matter where they live within Howard County, citizens expect solid IT services from county government. That's why Howard County has invested in numerous tools from Quest Software. Most of these tools help the county manage Microsoft Active Directory (AD), others help it manage email, and still others assist with virtualization.

Ira Levy, CIO for the county, said the Quest tools raise the county's level of efficiency. "They allow my staff to take on additional workload, so they don't have to go from system to system in a very manual process to make sure everything is in place and is working," said Levy. "It helps us not only achieve more, but also to plan more effectively. And that certainly results in the IT department looking more credible when we're asking for budgets and spending, and it aligns our operations with our budgets."

Many Tools, Many Benefits

The tools from Quest allow the county to automate many tasks related to AD, email and virtualization. "They allow us to automate portions of our monitoring and management of our systems," Levy said. By freeing up Levy's staff from operational tasks, Quest helps IT personnel get more productivity from the county's systems. "It allows us to enhance the systems we have," said Levy. "If we spent all our time working operationally, just trying to manage and monitor, we'd never have the opportunity to move things forward and to achieve progress."

The county Department of Technology and Communication Services has approximately 100 people on staff, serving about 3,500 users. While the size of the staff hasn't increased in recent years, the workload has. Levy points to the county's wide range of users and the number of systems as additional challenges. "The complexity of our environment is what the Quest tools help us manage," Levy said.

ChangeAuditor for Active Directory is one such tool. It makes it easy to tell *why* changes have been made. Was it an external, malicious attack? Or was it done for appropriate reasons, internally? ChangeAuditor helps the county know the answers.

"With ChangeAuditor we know when permissions increase dramatically on certain accounts," said Levy. "So then we know which accounts may add more risk to the overall environment. When we see new administrative groups created, or new domain controllers added, or new enterprises put in place, we're able to have a sense from the overall environment of what needs to be assessed for vulnerability, where we need to start looking at more auditing, where we need to double-check — or sometimes to simply follow up with a phone call."

Smooth Operations

Quest Recovery Manager for Active Directory helps the county with disaster recovery. "It definitely allows us to know that if there is a catastrophic loss of Active Directory, from a user account perspective, that we're able to restore things very quickly," said Levy. "And it's easy to use. A few clicks and you're good to go."

The county also uses Quest's Password Manager and Spotlight on Active Directory Pack. Password Manager strengthens password policies and reduces help desk workloads by enabling end users to easily reset forgotten passwords. Spotlight on Active Directory Pack helps identify and resolve problems with a graphical representation of the IT environment. The county also depends on Spotlight on SQL Server Enterprise. "Our databases have grown in complexity and size, and the sheer number that we have," Levy said. "We use Spotlight on SQL Server Enterprise to make sure those databases are running and are fine-tuned, so we don't have delays, we don't have latency, we don't run out of space and the transaction logs are dealt with properly."

Valuable Data

The county has also purchased Quest's ActiveRoles Server (ARS) and Access Manager, and will begin implementation soon. ARS provides out-of-the-box user and group account management for Active Directory identity administration, delegation and security, while Access Manager controls user and group access to resources. "We want to get the same things out of those as we get from the other Quest tools," said Levy. "We want to get information that helps us preemptively avoid problems. We want information that allows us to do auditing and analysis so we can become more efficient, or modify our policies if we need to."

Email tools include ChangeAuditor for Exchange, which tracks critical configuration and permission changes to Exchange, and Quest Archive Manager, which archives emails with advanced search tools for end users.

In 2009, the county used Quest GroupWise Migrator for Exchange for migrating from GroupWise to Exchange, and also Quest NDS Migrator to move from NDS to AD. "GroupWise Migrator for Exchange allowed us to remove a lot of manual work from moving accounts from one environment to another," said Levy. "It saves you a lot of time when you can really hit those big batches and use a tool to automate it."

The county is even using Quest tools to help it with virtualization. With 95 percent of its systems virtualized within its data center, the county sees virtualization as an important step in the creation of private clouds. "Quest vFoglight allows us to, from a data center standpoint, look at our virtual machines, our storage, memory usage, and even our input/output load," said Levy. "It's resulted directly in us purchasing additional memory and storage prior to anything becoming a major problem. So we're able to preemptively deal with issues, before they affect some of our major systems."

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"What we're finding is that when you pick certain standard tools — like those from Quest — you have new opportunities for partnering with others around those tools."

Ira Levy, CIO, Howard County, Maryland

New Opportunities

The creation of private clouds will give the county opportunities to partner with other clouds. In fact, the county believes that having the right tools can allow it to partner with all kinds of organizations, both in the public and private sectors, on applications and services.

"What we're finding is that when you pick certain standard tools — like those from Quest — you have new opportunities for partnering with others around those tools, particularly in government, where you can do public-private partnerships," said Levy. "When you do that, you're able to better leverage the systems you have in place. And that's where sometimes you find cost savings. You're doing more with what you've already invested in."

Howard County is moving forward with its technologies, and providing the best possible services for its citizens. That's why it uses Quest software. "For us, it's a matter of what tools allow us to be able to focus our time on moving our systems forward, as opposed to just keeping track of them," Levy said.

The ease of use of the Quest tools is another helpful factor, Levy noted. "They're also well tested," he added. "They don't come with bugs and issues. They're mature products, and that is very meaningful if you want to manage systems that can have bugs or issues. You want to know that what you're using to monitor things is very reliable. And that's what we have with the Quest tools."

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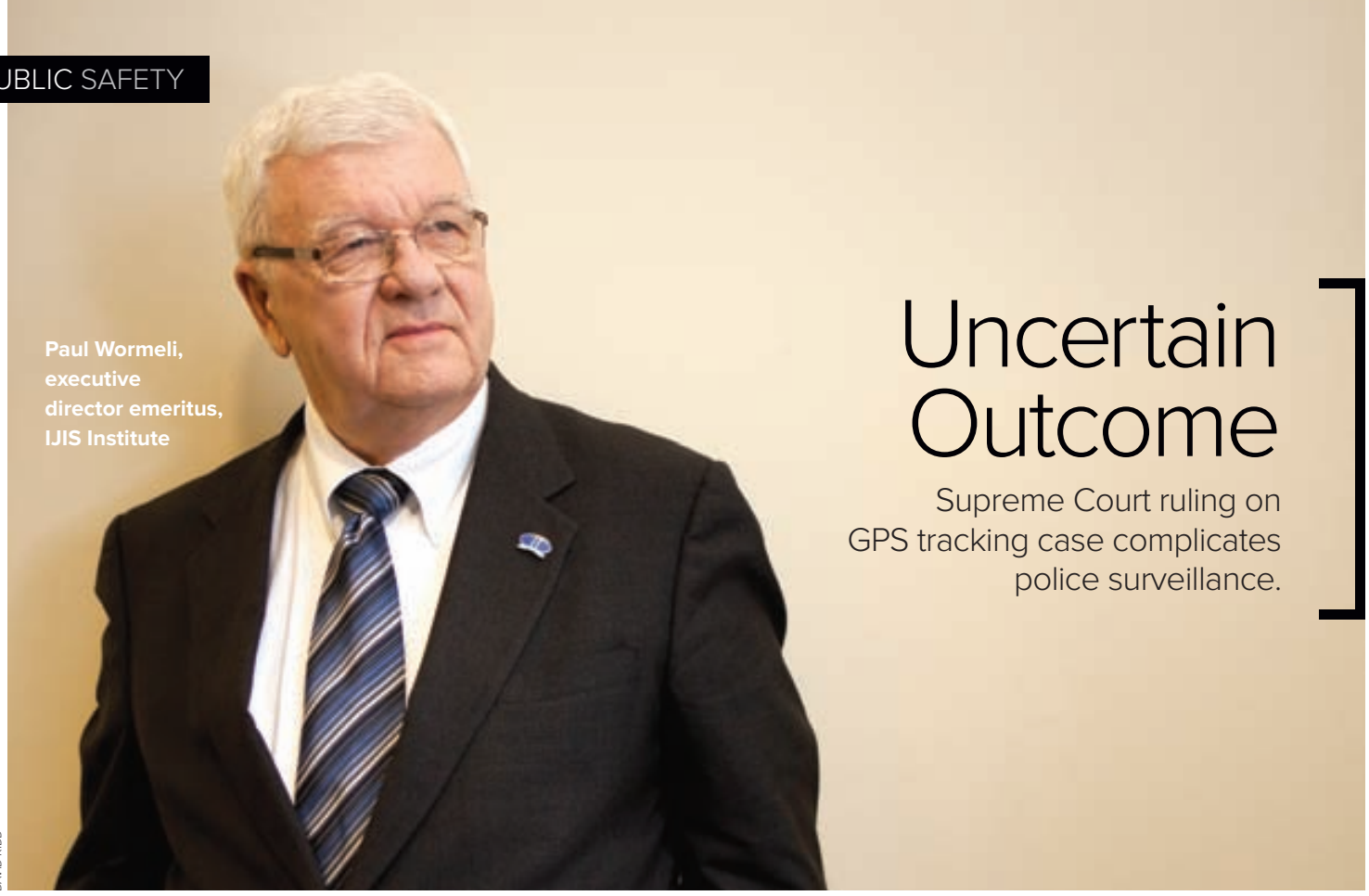

Paul Wormeli, executive director emeritus, IJIS Institute

DAVID KIDD

Uncertain Outcome

Supreme Court ruling on GPS tracking case complicates police surveillance.

By Brian Heaton / Staff Writer

A January U.S. Supreme Court decision on law enforcement's use of GPS surveillance could have wide-ranging repercussions, according to experts.

The high court confirmed in U.S. v. Jones that the placement of a GPS device on a vehicle for long-term tracking without an extended warrant was illegal under Fourth Amendment protections against unreasonable searches and seizures. In the absence of legislation that regulates the use of GPS tracking, the narrow ruling may stunt law enforcement's use of the technology and consequently increase personnel costs incurred during investigations.

Without GPS tracking, long-term surveillance could become too expensive in some cases, said Lt. Raymond E. Foster, a retired officer with the Los Angeles Police Department. The technology allowed departments to collect data remotely, instead of assigning multiple officers to monitor a suspect.

"There are going to be some cases where they say, 'We don't have enough for a warrant and we don't want to put a team of eight to 10 people on this for the next 72 hours, so we're not going to work this case,'" Foster said.

Paul Wormeli, executive director emeritus at the Integrated Justice Information Systems (IJIS) Institute, agreed. He said the decision would wreak havoc on the efficiency of law enforcement personnel.

In three separate opinions, the nine Supreme Court justices confirmed that placing a GPS tracking device on the vehicle of accused drug trafficker Antoine Jones in 2004 for 28 days, constituted a "search," as defined by previous case law concerning the Fourth Amendment.

"[Officers] didn't invade the car, they put a magnetic thing on the bottom of the car, in public," Wormeli said. "They could have done the same thing with manual surveillance, but do we want to spend our money having police putting on a 28-day tracking exercise to catch this drug dealer, or do we want to use technology?"

There's no question that police can use GPS tracking with a proper warrant. But Foster and Wormeli differ on how easily those warrants can be obtained in situations where timeliness is paramount.

Wormeli says the court's decision will largely impact how police investigate abductions and similar incidents. He questions whether officers could quickly obtain a warrant for GPS tracking at 2 a.m. if they spotted a suspected kidnapper's car. Inability to use tracking in those situations could put victims in peril.

Wormeli says the Supreme Court's decision will definitely impact law enforcement investigation.

Foster, however, disagreed. In such an event, he said, police have on-call district attorneys and judges to easily get a telephonic search warrant. Even if an officer couldn't reach a judge, Foster argued that the legal system would likely excuse GPS tracking usage in those instances.

So will further confusion be the result from the U.S. v. Jones outcome?

Foster said the case raises questions that local law enforcement deals with operationally all the time. He predicted that police will adapt to more careful use of GPS tracking and move on.

Wormeli, however, said GPS would be "less usable" by police due to concerns that evidence collected through GPS tracking potentially would be thrown out in court. GT

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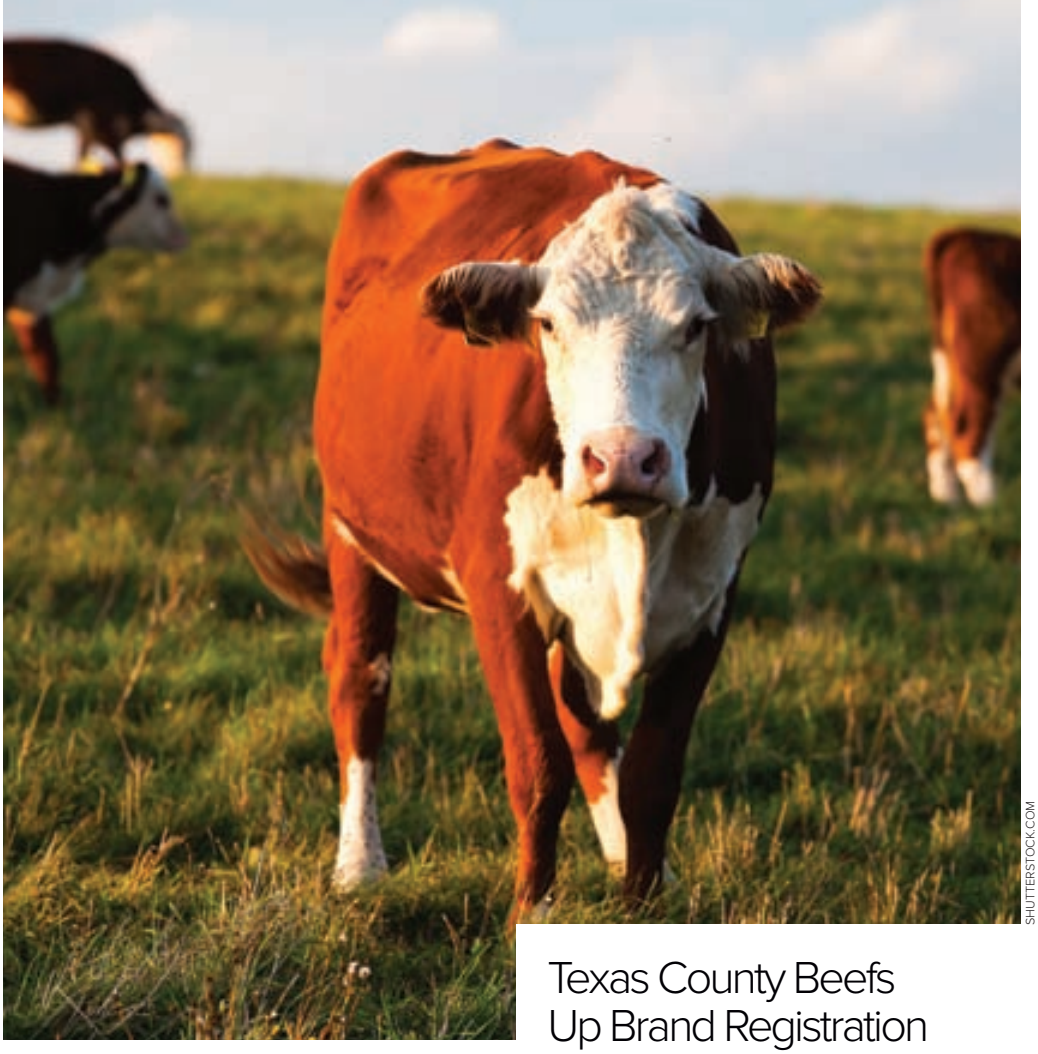
Brand Awareness

Montana moves cattle brand registration online.

By Sarah Rich / Staff Writer



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Few things are more closely identified with the Old West than livestock branding. But last year, Montana moved at least part of that age-old task into the digital age.

The state wrapped up a once-per-decade re-recording of livestock brands in December. For the first time, that process was made available online.

More than 55,000 active brands exist statewide, according to the Montana Livestock Department, identifying an animal's owner and helping to prevent loss or theft. Livestock owners must submit an image of their brand and a fee to the state, but only once every 10 years must they update their brand's information for state recordkeeping.

The new online service, Rerecord.mt.gov, let ranchers submit the required information online instead of mailing in paper forms or going to the branding office in Helena.

Out With the Old

Updating the submission process was only part of the project. The Livestock Department also modernized the storage of branding information.

The Livestock Department used to transfer information from paper forms to a disk storage system built in 1982, said Christian Mackay, executive director of the department. "It did what it did very well. But you could not parcel out the data from it," he said. "It was very difficult to see, for example, how many people owned brands in a certain county."

The old repository was retired in 2010, and now branding records are stored in a newer database that the state is working to make publicly accessible online, Mackay said.

The online re-recording Web service was developed through a public-private alliance that included the Livestock Department, the Department of Administration's State Information Technology Services Division and Montana Interactive — a subsidiary of e-government services provider NIC.

For 2011, 60 percent of livestock owners who re-recorded brands used the online service — the other 40 percent used paper forms.

The Future

The next brand re-recording happens in 2021. John Grainger, the Livestock Department's chief of brands enforcement, said he and other officials hope the service will include features like email notifications and the capability for ranchers to update their address and other data through the site.

"At this point, really, who knows?" Grainger said. "The sky is kind of the limit." GT

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Texas County Beefs Up Brand Registration

Ranchers in Collin County, Texas, can now renew cattle brands electronically from home and register new marks with the Collin County Clerk's office by computer. The technology — which may be the first of its type in the state — replaces a manual recording system that had been in place since the 1860s.

Thanks to the upgrade, both cattle owners and the Clerk's office are saving time. Previously ranchers went into the office, completed the appropriate forms and then hand-drew their mark three times in the registry book. Then staff would take the book apart and type — and before that, handwrite — the information into the book's pages.

About 350 cattle brands are registered, said Collin County Clerk Stacey Kemp. The old process took about 45 minutes to register one brand. Now that task is done in less than five minutes, and county staff can help multiple customers at once. — Brian Heaton

product news

By Miriam Jones | Chief Copy Editor

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Handstand

Lenovo touts its IdeaPad YOGA as the first multimode notebook with a 360-degree flip-and-fold design. YOGA offers four usage modes: notebook, tablet, stand and tent. YOGA measures 0.67 inches at 3.1 pounds and supports eight hours of battery life with up to 8 GB RAM and 256 GB SSD. **www.lenovo.com**

Square Mouse

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Power Up

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Shipshape Services

Minneapolis uses Foursquare to increase public awareness about e-government.

By Indrajit Basu / Contributing Writer

What's a city government to do when it finds that despite having thousands of fans and followers on Facebook and Twitter, it still doesn't connect deeply enough with residents? Maybe it's time to add another social channel.

Minneapolis officials did just that this winter when the city started using Foursquare. Leaders want to extract genuine business value from the location-based social networking platform by using it to point people in the right direction for e-government services.

By "checking in" via a smartphone app or text message to Foursquare, users share their location with friends while collecting points and virtual badges. Foursquare lets users bookmark information about venues they want to visit and provides relevant suggestions about nearby venues.

As of January, Minneapolis had many Facebook fans (8,600 "likes") and 13,200 Twitter followers, but the city doesn't necessarily reach those people when they're on the go, said Matt Lindstrom, a communications specialist for the city. The driving force behind Minneapolis joining Foursquare was to reach out to mobile users.

What Minneapolis officials like about Foursquare's potential, Lindstrom said, is that the city can reach users when they're engaged in a specific activity or are at a particular location. Consequently, Minneapolis will try to align the delivery of information about city initiatives with the user's location. "We're using Foursquare to give information about an activity they care about, and we're giving them information about a city initiative that ties into activities they're engaging in," Lindstrom explained.

The city is starting with a handful of goals. For instance, Minneapolis would like residents to purchase pet licenses, which aids animal control efforts and helps to identify runaways and strays. So the city is leaving Foursquare tips at area pet stores and dog parks. People who check in at one of these locations will see a tip about how to license their pets, Lindstrom said.

Similarly, the city has also placed Foursquare tips at local high schools and libraries for its STEP-UP Achieve summer jobs program. The notion is that an adult who's involved in a teenager's life might see this tip and encourage the student to apply for the internship program.

Another goal is to promote government transparency by helping people understand how to watch or track City Council and committee meetings — in person, online or on a mobile device. Henceforth, if a resident checks in at Minneapolis City Hall, tips pop up for how to watch City Council meetings.

Another possibility is delivering tips on healthy eating or locally grown food to Foursquare users at farmers markets.

"The city is against placing random tips," Lindstrom said of the strategy. Minneapolis is trying to be selective, strategic and thoughtful by placing tips at locations that make sense and are tied to city initiatives and objectives.

John Marino, CEO of Minneapolis-based RSP Marketing, said Foursquare also gives the city a better idea and measure of what people are using and talking about. For example, if residents are checking in often at a park, Marino said, then the city can gauge what's becoming popular and can target development plans from that knowledge.

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By Steve Ressler

Super Bowl CIOs

This year's draft: Pick up five skill sets for 2020.

While watching the last few hours of the Super Bowl pre-game show, I reflected on the various skill sets and team members needed for a championship-winning team. Strong ownership, a coach with a great plan, the quarterback with vision and leadership, a reliable and powerful running back and fast cornerbacks — it takes a lot.

What will it take for an award-winning government IT team in 2020? It's important to ponder as baby boomers start to retire and a new generation of leaders emerge while concurrently we have the consumerization of enterprise IT.

How do we ensure that our CIO teams have the talent to stay relevant internally and meet citizens' needs? I've compiled my top five IT skill sets for 2020 — if you're a general manager of your agency's football team, think about how you can make some trades and use free agents to round out your roster.

1 / User Interface/User Experience skills. For years, IT neglected design. It wasn't important to think about user experience, just the back-end developer. Does the code work? The last few years have shown, however, the importance of design. If you want people to use your technology, it must be functional. Think of Apple's design and Facebook's intuitiveness (did users get a manual when they started?) — that's the expectation people have when using the new HR attendance app or parking payment system.

2 / Creative security. It's easy for security to say no. In security's ideal world, it would own everything soup to nuts, harden all systems to the nth degree and control it cradle to grave. In 2020, with the rise of bring your own devices and software as a service, senior leaders will demand specific technologies, and security won't be able to say no (see President Barack Obama and his BlackBerry). You'll need creative security pros to devise unique solutions that allow deployment of these new tools and ensure the data is secure.

3 / Multisector management. Modern IT leaders can lead and understand all the constituents — government IT staff, business owners, contractors, nonprofits, civic hackers and citizens. To solve problems with shrinking budgets, IT leaders must build relationships across all these sectors and use their strong suits and creative business models. Have a staff member who is connected to the various networks so you can understand their strengths and perspectives.

4 / Rapid prototyping. Technology is changing fast. Government can't wait six to 12 months to undergo the standard system development life cycle, governance processes and acquisition steps just to try a new technology. Government must rapidly prototype potential solutions in-house.

5 / Learn and leverage. IT shops often fill roles around point skill sets — architecture, policy or a specific language or database — but the biggest skill set is staying fluent with new technology. Consumer technology is moving rapidly, and it's readier than ever to be quickly implemented in the workplace. Further, it's easier to find out what other cities are doing with new technology, like mobile or open data, and quickly connect and share best practices. Agencies need IT pros who know current consumer tech and learn from other cities.

2020 isn't far away. As a general manager, use your draft picks and free agents to pick up the talent you need to win the big game. It's no longer about focusing on standard IT skills; find talent who can help with user experience, creative security solutions, fast prototyping and multisector problem solving. GT

Steve Ressler is the founder and president of GovLoop, a social networking site for government officials to connect and exchange information.

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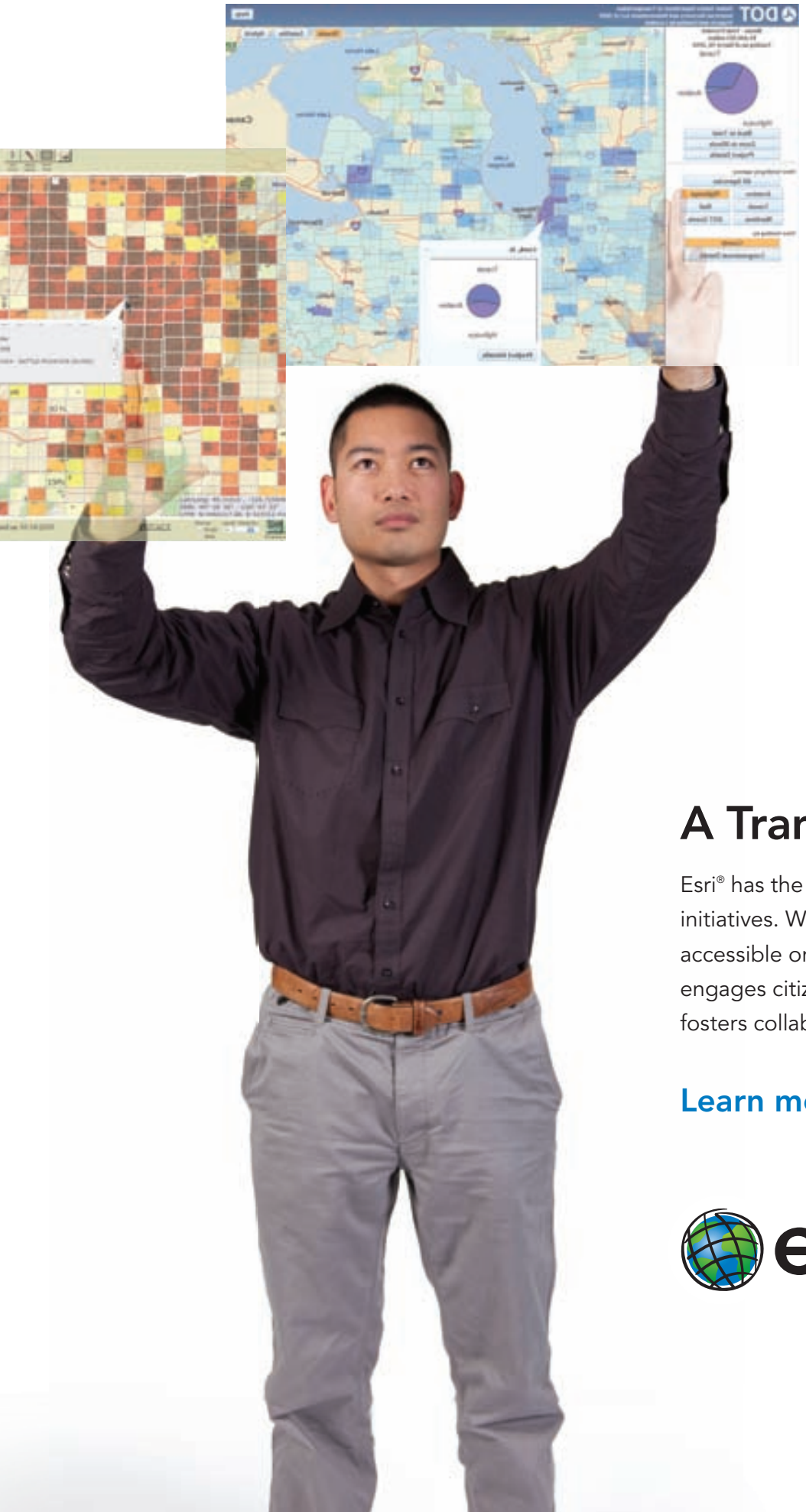

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